S. 4698 - 5

THE LANCET.

No. 4213. Vol. CLXVI. LONDON, SATURDAY, MAY 28, 1904. [Pp. 120+48.

CONTENTS.

THE LUMLEIAN LECTURES on Some Disorders of the Spleen. Delivered before the Royal College of Physicians of London on March 17th, 22nd, and 24th, by FREDERICK TAYLOR, M.D., F.R.C.P. Lond., Senior Physician to, and Lecturer on Medicine at, Guy's Hospital.—Lecture I... 1477

THE ERASMUS WILSON LECTURES on Acute Infective Gangrenous Processes (Necroses) of the Alimentary Tract. Delivered before the Royal College of Surgeons of England on March 21st, 23rd, and 25th, 1904, by EDRED M. CORNER, M.A., M.B., B.C. Cantab., B.Sc. Lond., F.R.C.S. Eng., Surgeon in Charge of Out-patients, St. Thomas's Hospital, &c.—Lecture III.... 1484

ORIGINAL ARTICLES.

On the Surgical Treatment of Diseases of the Stomach from a Physician's Point of View. By JOHN LINDSAY STEVEN, M.D., F.F.P.S.Glasg., Physician to, and Lecturer on Clinical Medicine at, Glasgow Royal Infirmary; Member of the General Medical Council, &c. 1487

Five Cases of Carcinoma of the Male Breast. By CHARLES R. KEYSER, F.R.C.S. Eng., Surgical Registrar to the Cancer Hospital. — (*Illustrated*)..... 1493

A Case of Congenital Deficiency of Both Upper Limbs. By H. ASHLEY GAITSKELL, M.D. Cantab., late House Surgeon to Guy's Hospital.—(*Illustrated*)..... 1496

On Three Cases of Suprarenal Apoplexy in Children. By FREDERICK LANGMEAD, M.B. Lond., M.R.C.S.Eng., Medical Registrar to the Hospital for Sick Children, Great Ormond-street; late Resident Obstetric Officer, St. Mary's Hospital 1496

Further Note on Some Additional Points in connexion with Chloroformed Calf Vaccine. By ALAN B. GREEN, M.A., M.D.Cantab. 1498

Wound of the Left Thorax, with Extensive Laceration of the Pleura, &c. By E. WYNSTONE-WATERS 1499

Gynæcomastia. By EDWIN S. CRISPIN, M. R. C. S. Eng., L.R.C.P.Lond., Civil Surgeon and Hon. Bimbashi, Egyptian Army.—(*Illustrated*)..... 1499

A MIRROR OF HOSPITAL PRACTICE.

ROYAL FREE HOSPITAL:
A Case of Repeated Intestinal Obstruction following an Operation for Removal of a Cyst of the Pelvis; Recovery. (Under the care of Dr. T. C. Hayes and Mr. T. P. Legg)... 1500

LIVERPOOL INFIRMARY FOR CHILDREN:
Four Cases of Strangulated Inguinal Hernia in Infants aged 17 days, five weeks, four months, and 12 months. (Under the care of Mr. R. C. Dun) 1501

MEDICAL SOCIETIES.

PATHOLOGICAL SOCIETY:
The Glomerular Lesions of Diffuse Nephritis.—Malignant Growths.—Primary Sarcoma of the Liver in an Infant.—Sarcoma of the Alimentary Canal.—Leukæmia 1502

MEDICO-PSYCHOLOGICAL ASSOCIATION:
Quantitative and Qualitative Leucocyte Observations in Various Forms of Insanity.—Social Causes of Alcoholism.—Combined Spinal Degeneration with Unusual Mental Symptoms 1503

EDINBURGH MEDICO-CHIRURGICAL SOCIETY:
Exhibition of Cases and Specimens 1504

WEST LONDON MEDICO-CHIRURGICAL SOCIETY:
Chronic Pancreatitis.—Lessons from a Year's Fatalities 1506

BRITISH LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL ASSOCIATION:
Exhibition of Cases 1506

BRITISH GYNÆCOLOGICAL SOCIETY:
Exhibition of Specimens.—The Dangers of Pessaries 1507

SOUTH-WEST LONDON MEDICAL SOCIETY:
Some Observations on the Treatment of Adenoids 1507

REVIEWS AND NOTICES OF BOOKS.

La Maladie du Sommeil: Rapport par la Mission envoyée en Afrique Occidentale Portugaise. By Annibal Bettencourt, Ayres Kopke, Gomes de Resende, and Correa Mendes... 1507

The Medical Inspection of School Children. By W. Leslie Mackenzie, M.A., M.D. Aberd.; assisted by Edwin Matthew, M.A. Aberd., M.B., C.M. Edin. 1508

Ophthalmological Anatomy, with Some Illustrative Cases. By J. Herbert Fisher, M.B., B.S. Lond. 1509

Elements of Water Bacteriology, with Special Reference to Sanitary Water Analysis. By Samuel Cate Prescott and Charles Edward Amory Winslow 1510

Lehrbuch der Geburtshilfe. By F. Ahlfeld. Third Edition... 1510

Elementary Lectures on Errors of Refraction and their Correction. By Harold B. Grimsdale, M.B., B.C. Cantab., F.R.C.S. Eng. 1511

A Manual of Obstetrics. By A. F. A. King, M.A., M.D. Ninth Edition 1511

The Annual Charities Register and Digest, 1904 1511

The Oxford and Cambridge Year-Book, 1904. Part I. Oxford. Edited by A. W. Holland 1511

ANALYTICAL RECORDS FROM THE LANCET LABORATORY.

Sparkling Saumur: (1) Dry Royal; (2) Brut Royal 1511
"Kuma" 1512
Albumenised Humanised Milk 1512
"Tabloid" Ophthalmic Dionin 1512
Boro-thymol 1512

NEW INVENTIONS.

The "Ondo" Soap Distributor. (*Illustrated*) 1512

LEADING ARTICLES.

PHYSICAL EXERCISES FOR CHILDREN 1513
THE REGISTRAR-GENERAL'S ANNUAL SUMMARY..... 1514
SOCIOLOGY..... 1515
THE STOCKPORT HOSPITAL SCANDAL..... 1516

ANNOTATIONS.

The Amendment of the Lunacy Acts 1517
Annual Report of the Medical Defence Union 1518
The Restriction of Licensing ... 1518
Public Ambulances 1519
Endogenous Pneumococcic Infection of the Eye 1519
The University of Wales and Medical Degrees 1519
Modern Perambulators 1520
The Sunshine of England and Switzerland Compared..... 1520
The Distribution of Plague ... 1520
Medical Science Papers at the Bonn Meeting of the German Bunsen Gesellschaft 1520
The Supply of Ice for Domestic Use 1521
Fifteenth International Congress of Medicine 1521
Twisted Pedicle of an Ovarian Tumour Thrice Reduced without Operation 1521
Juvenile Tabes Dorsalis 1521
Industrial Effluvium Nuisances: Yeast in Tannin Materials ... 1522
The Sandgate Scandal 1522

LOOKING BACK.

(From THE LANCET, Saturday, May 27, 1826.)

Foreign Department..... 1527

VITAL STATISTICS:
Health of English Towns 1528
Health of Scotch Towns 1528
Health of Dublin 1528
Vital Statistics of London during April, 1904 1528
Analysis of Sickness and Mortality Statistics in London during April, 1904..... 1529

SPECIAL ARTICLES.

Epidemic of Plague in Johannesburg. By WALTER C. C. PAKES, M. R. C. S. Eng., L. R. C. P. Lond., Medical Officer of Health, Rand Plague Committee 1523

Etablissement Hivernal et Thermo-minéral d'Hammam-R'Hira (Algérie). By D. W. KEILLER MOODY, M.D., C.M. Aberd. 1524

Mr. Ion Perdicaris and Sanitary Reform at Tangier 1525
The Medical, Surgical, and Hygienic Exhibition 1526
The Proposed New Bellevue Hospital in New York City.—(*Illustrated*) 1533
The Services: The War in the Far East..... 1534
The German Congress of Internal Medicine 1536
Cholera in Mesopotamia and Persia 1537
Notes from India 1538
Liverpool 1538
Wales and Western Counties Notes 1539
Scotland 1539
Ireland 1540
Paris 1540

CORRESPONDENCE.

The Tenure of Office of the Medical Officer of Health (Mr. Herbert Jones) 1535
Medical Defence: a Parallel ("F. Bacon") 1535
A Word of Thanks (Mr. Harold S. Sington) 1536
A Slip (Sir William Church) ... 1536
Septic Conjunctivitis (Mr. Robert W. Doyne) 1536
Burning from X Rays (Mr. H. Lyle) 1536
The Old Hardship of London Medical Students 1536
Enterprise..... 1545
Income-tax Assessment 1546

THE GENERAL MEDICAL COUNCIL.

Commentary 1541
The President's Address 1542

OBITUARY.

Etienne J. Marey, Professor in the Collège de France, Paris, and Member of the Institute. (*With Portrait*)..... 1530

MEDICAL NEWS.

Royal College of Surgeons in Ireland 1523
The Devon and Exeter Benevolent Society 1536
Pass-lists of the Society of Apothecaries of London, Trinity College, Dublin, and Royal College of Surgeons in Ireland 1542
Remarkable Vital Statistics of St. Petersburg 1543
Sewage Purification Works at Davyhulme 1543
University of Oxford 1543
Association for Promoting the Training and Supply of Midwives 1543

PARLIAMENTARY INTELLIGENCE.

Notes on Current Topics 1543
House of Commons 1544

Appointments..... 1544
Vacancies 1544
Births, Marriages, and Deaths 1545
Notes, Short Comments, and Answers to Correspondents... 1545
Medical Diary 1546

FOR INDEX TO ADVERTISEMENTS SEE PAGES 2 & 4.

INDEX.

MEDICAL AND OTHER BOOKS AND PUBLICATIONS.

COVER.

ARNOLD :— PAGE
Fembrey & Phillips .. Action of Drugs 1

BAILLIERE, TINDALL & COX :—
Ball ..... Diseases of the Nose, &c. 1
Baruch ..... Hydrotherapy 1
Campbell, H. Respiratory Exercise in Treatment of Disease.. 1
Clarke ..... Hernia 1
,, ... Descended Testis .. 1
French ..... Med. Lab. Methods, &c. 1
Kraepelin .. Clinical Psychiatry 1
Starr ..... Nervous Diseases 1

CHURCHILL, J. & A. :—
Berry ..... Manual of Surgical Diagnosis 1
Marshall .... Stretcher Drill 1
Squire's Pocket Companion to the British Pharmacopœia 1
Thresh ..... Water and Water Supplies 1
Tomes ..... Dental Anatomy 1

DAVIDSON :—
Hall ..... Study of Otoscopy 1

GLAISHER :—
Cullingworth Charles White, F.R.S. .. 1
Kingscote .. Asthma 1
Savill ..... Neurasthenia 1

LEWIS :—
Campbell, H. Flushing, &c. 1
,, ... Headache 1
Herring .... Sterilisation of Urethral Instruments 1
Lewers ..... Diseases of Women 1
,, ... Cancer of the Uterus .. 1

LONGMANS GREEN & CO. :—
Phillips .... Materia Medica 1

PENTLAND, Y. J. :—
Bruce ..... Principles of Treatment 1
Thomson & Miles..... Manual of Surgery 1

SAUNDERS & CO. :— PAGE
Saunders' Medical Hand-Atlases 1

BAILLIERE, TINDALL & COX :—
Allingham .. Diseases of the Rectum 8
,, .. Colotomy, &c. 8
,, .. Operative Surgery 8
Bigg ..... Constipation 12
Lake ..... Diseases of the Ear 11
Latham .... Sanatorium Treatment of Tuberculosis..... 11
,, ... Pulmonary Consumption 11
Thorne .... Napheim Treatment.... 6
Tucker .... Hypnotism 10
Vincent .... Nutrition of the Infant 10
Younger .... Insanity 8

BALE SONS & DANIELSSON :—
British Gynæcological Journal 9

CASSELL & CO. :—
Bland-Sutton Tumours 9
Bruce ..... Materia Medica, &c. 9
Gould ..... Surgical Diagnosis 9
Herman .... Diseases of Women, &c. 9
,, ... First Lines in Midwifery 9
,, ... Difficult Labour 9
Hutchison & Rainy .. Clinical Methods 9
Hutchinson.. Syphilis 9
Klein & Bikins .... Elements of Histology.. 9
Luff & Pare Manual of Chemistry .. 9
Manson, Sir P. Tropical Diseases 9
Marsh ..... Diseases of the Joints .. 10
Morris, H. .. Surgical Diseases of the Kidney and Ureter 9
,, .. Surgery of the Kidney and Ureter 10
,, .. Injuries and Diseases of Genital, &c., Organs .. 10
Morris, M. .. Diseases of the Skin 9
Savage ..... Insanity &c. 9
Treves, Sir F. Operative Surgery, &c. 9
,, Intestinal Obstruction.. 9
,, Surgical Anatomy..... 9
,, Surgical Operations 9
,, System of Surgery..... 9

CASSELL & CO.—(Continued). PAGE
Yeo ..... Mineral Springs, &c. 9
,, ... Food in Health, &c. 9
,, ... Medical Treatment 9

CHURCHILL, J. & A. :—
Beach ..... Treatment of Mentally Feeble Children 3
Bowlby .... Surgical Pathology 3
Cullis ..... Malignant Disease..... 10
Cautley..... Infant Feeding 3
Cripps ..... Diseases of the Rectum 10
,, ... Cancer of the Rectum .. 10
Fenwick, S. H. .... Operative, &c., Tumours 3
,, ... Urinary Diseases 3
,, ... Electric Cystoscopy 3
,, ... Diseases of the Kidney 3
,, ... Ulceration of the Bladder 3
,, ... Tumours of the Bladder 3
Goodhart & Still ..... Diseases of Children.... 3
Hartridge .. Refraction of the Eye .. 3
,, .. The Ophthalmoscope .. 3
Hewlett .... Serum Therapy 3
,, ... Bacteriology 3
Lazarus-Barlow.... Pathological Anatomy and Histology 3
,, ... General or Experimental Pathology 3
Leftwich .... Hydraulic Pressure in the Large Intestine ... 3
Marsh ..... Clinical Lectures and Essays 10
Nettleship & Spicer .... Diseases of the Eye 3
Smith, F. J... Medical Jurisprudence 3
Squire's Pocket Companion to the British Pharmacopœia 8
St. Thomas's Hospital Reports 3

KEGAN PAUL & CO. :—
Taylor ..... Diseases of the Eye 8

KIMPTON, H. :—
Rivers-Wilson .. Conjoint Board Series .. 10

LEWIS :— PAGE
Martindale & Westcott .. Extra Pharmacopœia .. 6

LONGMANS, GREEN & CO. :—
Bennett, Sir W. .... Massage, &c. 10

RENSHAW :—
Wood ..... Application of Trusses 12

SAUNDERS & CO. :—
Medical Hand-Atlases 5
Nothnagel's Practice..... 10

SMITH, ELDER & CO. :—
Juler..... Ophthalmic Science, &c. 11
Keetley .... Orthopædic Surgery.... 12
,, ... Gastric Ulcers..... 12
Lawson .... Complicated Fractures 12
,, ... Diseases and Injuries of the Eye 11
Tirard ..... Albuminuria, &c. 6

THE LANCET PUBLICATIONS .. 12

WRIGHT & CO. (Bristol) :—
Coillie ..... Infectivity of Enteric Fever..... 9
Meiland .... Pocket-book of Clinical Methods 9
Starpoole .. Ailments of Women and Girls 9
Sutherland .. Dispensing Made Easy 9
Von Noorden & Mohr.... Acid Auto-Intoxications 9
,, .. Membranous Catarrh of the Intestines 9
,, .. Nephritis 9
,, .. Obesity 9

MEDICAL LIBRARIES, &c. :—
Rebate—Hammering 12
Clinical Journal 11
Dolecoed Spa, Llanwrtyd—
Grant: Handbook to the Sulphur Baths 12
Glaisher—Publishers' Remainders.... 12
The Times 7

OFFICIAL AND GENERAL ANNOUNCEMENTS.

APPOINTMENTS VACANT :—
Army Medical Service 83
Birmingham Workhouse 84
Bradford Royal Infirmary 84
Brighton, Hove, and Preston Dispensary 84
Central London Ophthalmic Hospital 83
City of London Hospital for Diseases of the Chest, Victoria-park 84
Derbyshire Royal Infirmary 83
Dumfries and Galloway Royal Infirmary 83
Ebbw Vale Steel, Iron and Coal Co .. 82
Edinburgh Merchant Co. Schools 83
Evelina Hospital for Sick Children ... 82
Hos. for Sick Children, Gt. Ormond-st. 82
Hull Royal Infirmary 83
Indian Medical Service 82
Kent and Canterbury Hospital..... 84
Leicester Infirmary 84
Medical Mission Hospital, Canning Town 83
North-Eastern Hospital for Children, Hackney-road 84
Parish of Birmingham Workhouse Infirmary 84
Parish of St. Leonard, Shoreditch 84
Perth District Asylum, Murthly 83
Radcliffe Infirmary, Oxford..... 83
Rochdale Infirmary 83
Rotherham Hospital, &c. 82
Royal Free Hospital, Gray's Inn-road 83
Royal London Ophthalmic Hospital.. 83
Royal Surrey County Hospital, Guildford 82
Royal Victoria Hos., Bournemouth .. 82
Seamen's Hospital Society 84
Southport Infirmary..... 83
Sussex County Hospital, Brighton 83
University of Oxford 83
Victoria Hos. for Children, Chelsea .. 83
Western General Dispensary, Marylebone-road 84
West Riding Asylum, Wadsley 83

ASSISTANCIES, MEDICAL 90

ASYLUMS, HOMES, &c. :—
Aberystwith, the Biarritz of Wales 75
Arosa, Switzerland 70
Ashwood House, Kingswinford 81
Parkwood House Hospital 81
Bethel Hos. for Mental Diseases 80
Bishopstone House, Bedford 81
Bodorgan Manor, Bournemouth 80
Buntingford House Retreat, Herts 75
Camberwell House, Peckham-road.. 81
Cheadle Royal, Cheadle 81
Cuppice, Ltd., Nottingham 74
Cotswold Sanatorium 77
Crookesbury Sanatorium, Surrey 74
Dalrymple House, Rickmansworth ... 81
Dartmoor Sanatorium 73
East Anglian Sanatorium, Co., Suffolk 76
Electro Medical Institute, Manchester 76
Ergetberg 81
Fairford Retreat, Gloucestershire 73
Ferguson, Barnet 80
Finsen Light Cure &c., Norwich 81

ASYLUMS—(Continued). PAGE
Flower House, Catford..... 74
Gerserts & Vandersander, Portland-pl. 80
Grove House, Church Stretton..... 74
Grove, The, Catton, Norwich 74
Hailey Open Air Sanatorium, Ipswich 76
Haslemere Invalid Home 80
Haydock Lodge, Newton-le-Willows.. 79
High Shot House, Twickenham 73
Hitch, Mrs., Hollington 74
Inverurith Lodge Retreat, Dumfries .. 75
Lady Superintendent, Brighton 80
Lady Superintendent, Streatham 80
Lawson, Wordsley-on-Dee, Farcherry 77
Leysin, Switzerland 76
London Open-Air Sanatorium, Wokingham 78
Mable House, Lillieover 81
Maternity Home, New King's-road 80
Melbourne House, Leicester 74
Middleton Hall, Co. Durham 82
Midland Open-Air Sanatorium..... 77
Moat House, Tamworth 74
Mourcote, Evercreech 80
Nordrach in Wales..... 77
Nordrach-upon-Mendip Sanatorium .. 77
Northlands Retreat, Wandsworth 81
Northumberland House, Finsbury-pk. 75
Northwood House, Winterbourne.... 76
No. 844, L.O., Strand..... 73
No. 845, L.O., Strand..... 80
No. 862, L.O., Strand..... 80
Ockill Hills Sanatorium 76
Overdale, Whitefield..... 80
Park House Convalescent, &c., Home, Waterloo..... 81
Peckham House, Peckham..... 78
Plas-y-Bryn, Wales 75
Plympton House, South Devon 74
Rostrevor Open-air Sanatorium 76
Shaftesbury House, Formby..... 79
Sister, Blackheath 80
Springfield House Private Asylum, Bedford 73
St. Andrew's Hospital, Northampton 74
Stewart, Dr., Dunmurry 75
St. Luke's Hospital, E.C. 80
Stocker, Craven-street 80
Stone House, Canterbury 81
Stretton House, Church Stretton 74
Sunshine, Chislehurst 80
Thundercliffe Grange, nr. Rotherham 80
Tower House, Leicester 74
Vale of Clwyd Sanatorium..... 76
Warneford Asylum, Oxford 74
West Malling-place, Kent 73
Whitmead Sanatorium, near Farnham 77
Winchester House, Kingston-hill 73
Wonford House, Exeter 74
Wye House, Buxton..... 74
Wykes House, Lancaster 74
Yarrow Convalescent Home, Broadstairs 75

BATHS :—
Bad Kissingen 79
Bad Nauheim, Germany 82
Bath Nauheim 80
Baths of Homburg 79

BATHS—(Continued). PAGE
Harrogate 78
Karlsbad 82
Moffat Hydropathic 81
Smedley's, Matlock 82
Waldhaus Flims, Switzerland 82

COMPANIONS :—
Owen—French Governess 81

FINANCIAL &c. :—
Birkbeck Bank 71
English and Scottish Law Life Office.. 71
Equitable Reversionary Interest Soc. 71

HOMES &c., WANTED :—
No. 843, L.O., Strand..... 80

HOTELS :—
Barton Court Hotel, New Milton 75
Ilfracombe—Ilfracombe Hotel..... 75
Montreux Hotel and Chalets, Belmont 73
Port Orotava—English Grand Hotel.. 73

HOUSE & ESTATE AGENTS :—
Bedford & Co., Wigmore-street 80
Champion & Busby, St. James's square 80
Humphreys, South wark 80
Nichols & Co., Norbiton 80
CONSULTING-ROOMS :—
Dentists, Piccadilly 80
No. 865, L.O., Strand..... 80
No. 866, L.O., Strand..... 80

LIFE & FIRE ASSURANCES :—
General Life Assurance Co. 71
National Provident Institution 71
Prudential 71

MEDICAL ACCOUNTANTS &c. :—
Turner 80

MEDICAL AGENTS :—
Hall & Hardwicke 83
Lee & Martin..... 84
London Medical Agency..... 84
Manchester Medical Agency 84
Medical Agency 84
Needes, Herbert 80
Needes, F. C. 83
Northern Medical Association..... 80
Orridge 84
Peacock & Hadley 80
Reynolds & Branson 80
Scholastic, Clerical, &c., Assoc. 87
Turner 84
Wilson & Son 80

MEDICAL SCHOOLS (London) :—
Cooke's School of Anatomy 63
Medical Graduates' College, &c. 69
West London Post-Graduate College.. 70

MEDICAL SCHOOLS (Provincial) :—
University of Birmingham..... 70

NURSING INSTITUTES :—
Clapton Nursing Home 72
General Lying-in Hospital, Lambeth 73
General Nursing Institution 72
Gower, Weymouth-street 72
Hos. for Sick Children, Gt. Ormond-st. 72
Incorporated Society of Trained Masseuses 72
Leeds Trained Nurses' Institution 74
London Nurses' Association 73
Male and Female Nurses' Assoc..... 72
Male Nurses' Association 72
Male Nurses' Co-operation 72
Middlesex Hos. Trained Nurses' Inst. 72
Mildmay Nursing Institute 72
Nurses' Co-operation, Portland-place 73
Queen Charlotte's Lying-in Hos..... 72
St. John's House 72
Temperance Male and Female Nurses' Co-operation 73
Temperance Male Nurses' Co-operation 72

OFFICIAL NOTICES :—
Central London Throat, &c. Hos. 70
College of Preceptors 69
Epsom College 69
Rowan College Exhibitions 69
Medical Defence Union, Ltd. 69
Mount Vernon Hos. for Consumption 69
Naval Medical Examination..... 71
Royal (Dick) Veterinary College, Edinburgh 69
Royal London Ophthalmic Hospital.. 69
Sanitary Assurance Association 69
University of Cambridge..... 69

PARTNERSHIPS & PRACTICES :—
Hatch, Southport 80
No. 780, L.O., Strand..... 89
No. 810, L.O., Strand..... 80
No. 830, L.O., Strand..... 80
No. 841, L.O., Strand..... 89
No. 842, L.O., Strand..... 89
No. 849, L.O., Strand..... 80
No. 847, L.O., Strand..... 80
No. 851, L.O., Strand..... 80
No. 852, L.O., Strand..... 80
No. 855, L.O., Strand..... 89
No. 857, L.O., Strand..... 80
No. 860, L.O., Strand..... 80
No. 861, L.O., Strand..... 80
Stocker, Craven-street 80

RAILWAY & STEAMSHIP CO.'S :—
Albion S.S. Co.—Navy Cruise 62
New Zealand Shipping Co. 62
Orient-Pacific Line Pleasure Cruises.. 82
Royal Mail Steam Packet Co.—Tours 82

SCHOOLS, PREPARATORY, &c. :—
Manchester Physical Training College 70

TUTORS & LECTURERS :—
Duchesne .. 70, 71
Fellowships .. 71
Gemmell 71
Goode 70 71
Kerin 71
Lane & Pratt .. 70
No. 868, L.O. .. 70
Patterson 71
Van Praagh..... 71
Weymouth 70

(For Index to Trade and Miscellaneous Advertisements see page 4.)

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CONTENTS.

1. Medical Report, 1902. By Edward A. Gates, M.D. Lond., M.R.C.P.
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INDEX—(CONTINUED).

TRADE AND MISCELLANEOUS ADVERTISEMENTS.

COVER.

PAGE

CHEMISTS & DRUGGISTS:—
Brin's Oxygen Co.—Brin's Oxygen.... iii
Maltine Manufacturing Co.—
Maltine ... iv
" with Cod Liver Oil... iv

FOODS:—
Fry's Pure Concentrated Cocoa ... iii
" Malted Cocoa ... iii

FURNITURE, &c.:—
Carter—Invalid Furniture ... iii

SANITARY APPLIANCES, &c.:—
Sanitas Co.—
Sanitas Fluid ... ii

ANATOMICAL MECHANICIANS:—
Muller—Artificial Eyes ... 15

BICYCLES & TRICYCLES:—
Hinde' Brake Co.—Hinde' Brake ... 17

BOTTLE MERCHANTS:—
Isaacs ... 66
Islington Glass Bottle Company ... 66
Kilner Brothers, Ltd. ... 17

CARRIAGES, HORSES, &c.:—
Armstrong—
Coachmen's and Grooms' Liveries 17
Bramley Hill (24), Croydon—
Single Brougham ... 17
Cortland Wagon Co.—
Cortland Broughamette ... 16
De Dion-Bouton—Motor Cars ... 16
Duryea Co.—
Duryea Power Carriages ... 15
Humber, Ltd.—Motors ... 16
Imperial Accident Insurance Co.—
Carriage Insurance, &c. ... 17
Lacre Motor Car Co., Ltd.—
Motor Cars ... 17
Maythorn & Son—
Medical Coupé ... 17
Motor Manufacturing Co., Ltd.—
Gold Medal Cars ... 62
Ridges—Single Opening Brougham .. 17
St. John Ambulance—
Invalid Carriages ... 17
67, George-street, Portman-square—
Secondhand Carriages ... 17

CHEMISTS & DRUGGISTS:—
Allen & Hanburys—
Medical Inal ... 40
Hyno-Hypophosphites ... 41
Hynin ... 39
Andrus & Andrus—
Hemaboloids ... 30
Antikamnia Chemical Co.—
Antikamnia Tablets ... 27
Armour & Co.—
Supraremalin Solution ... 51
Battle & Co.—Bromidia ... 66
Bayer Co.—
Aristol ... 53
Tannigen ... 53
Theocin-Sodium Acetate ... 53
Agurin ... 53
Heroin Hydrochloride ... 53

PAGE

CHEMISTS—(Continued).
Benger's Food, Ltd.—
Liquor Pancreaticus ... 46
Liquor Pepticus ... 46
British Antitoxine Manufacturing Co.—
Antitoxine ... 62
British Druggists—
Medicinal Peroxides ... 54
Buchner, Schacht & Co.—
Sandow's Carbonated Acid Bath .. 61
Eff. Brom-Salt ... 61
Sandow's Artificial Mineral Water Salts ... 61
Bullock & Co.—
Pepsina Porci ... 60
Acid Glycerine of Pepsine ... 60
Burroyne, Burbidges & Co.—
Xeroform ... 60
Creosotal ... 60
Burroughs, Wellcome & Co.—
Kepler Malt Extract ... 45
Tabloid Medicine Cases ... 43
" Photographic Chemicals 44
Soloid Microscopic Stains ... 44
Christy & Co.—
Glyco-Thymoline ... 33
Ergoapiol ... 32
Denver Chemical Co.—
Antiphlogistine ... 34
Dinneford's Fluid Magnesia ... 62
Evans Sons Lescher & Webb, Ltd.—
Ol. Santal Flav. ... 47
Thyroglandin ... 47
Alginoid Iron ... 47
Cascara Hawley ... 47
Fairchild Bros. & Foster—
Zymine Peptonising Tubes ... 36
Pepsencia ... 37
Hewlett & Son—
Mint. Pepsine Co. c. Bismutho ... 52
Kirby & Co.—Purgen ... 54
Kreochyle Co.—Hard Nero-Glycerine 61
Matthaei & Co.—Dry Yeast ... 66
Newbery & Sons—
Pulvis Jacobi Ver ... 62
Tono-Nervine Tablets, &c. ... 31
Cascara Elixir ... 31
Tono Sumbul Cordial ... 31
Obesity Tablets ... 31
Lagivitt Apparatus ... 31
dromo Soda ... 31
Parke, Davis & Co.—
Modern Therapy ... 29
Adrenalin Taka-mine ... 30
Raimes & Co.—
Slinger's Nutrient Suppositories .. 62
Salamon & Co.—Purest Chloroform .. 69
Sanatogen Co.—Sanatogen ... 28
Scott & Bowne—Scott's Emulsion 53
Seltzogene Patent Charges Co.—
Sulphaqua ... 62
Squire & Sons—
Maltoglobin ... 35
Arsenate of Iron ... 34
Syrup Glycerophosph. Co. ... 38
Fermanglobin ... 38
Tamar Indian Grillon ... 60
Wilcox & Co.—
Santal-Midy ... 52
Dusart's Syrup of Lacto-Phosphate 52
Morrhuol ... 52
Morrhuol-Creosote ... 52
Apioline ... 52
Grimault's Cigarettes ... 52
Willows, Francis, Butler & Thompson—
Poilantin ... 62
Wyleys—
Neurocretin and Combinations 61
Zimmermann, A. & M.—
Urotropin ... 62

FILTERS:—
Defries & Sons—Pasteur Filter ... 59

PAGE

FOODS:—
Aylesbury Dairy Co.—
Humanised Milk ... 45
Bayer Co.—
Somatose ... 53
Benger's Food, Ltd.—
Peptonised Beef Jelly ... 46
Peptonised Chicken Jelly ... 46
Blatchley's Diabetic Preparations 63
Bonthron & Co.—Gluten Bread, &c. .. 63
Bovinine Co.—Bovinine ... 23
Brand & Co.—Meat Juice ... 56
Cadbury's Cocoa ... 57
Callard & Co.—New Diabetic Foods .. 63
Digestible Tea Syndicate, Ltd.—
Plasmon Tea ... 64
Fairchild Bros. & Foster—
Peptogenic Milk Powder ... 37
Frame Food Co.—Frame Food ... 50
International Plasmon, Ltd.—
Plasmon ... 49
" Cocoa ... 49
" Arrowroot ... 49
Nestlé's Food ... 58
Raimes, Clark & Co.—
Revalenta Food ... 62
Roborat Co.—Roborat ... 61
Savory & Moore—
Nutrient Food ... 35
Tibbles' Vi-Cocoa, Ltd.—Vi-Cocoa 55
Valentine's Meat Juice Co.—
Meat Juice ... 62
Van Abbott & Sons—Gluten Flour.... 65
Virol, Ltd.—Virol ... 34
Welford & Sons—
Humanised Milk ... 22
Assos' Milk ... 22

FURNITURE, &c.:—
Army and Navy House Furnishing Co. 67
Ward—Invalid Chairs, &c ... 14
Wincycle Trading Co., Ltd.—
Excelsior Adjustable Table ... 66

MED. & SURG. APPLIANCES:—
Bailey & Son—
Abdominal Belts ... 18
Burroughs, Wellcome & Co.—
Aseptic Hypodermic Syringe 42
Cocking—
Poro-Plastic Jackets and Splints .. 66
Downing Radiant Heat Co.—
Downing Radiant Heat and Light Treatment ... 66
Leslies, Ltd.—
Plasters, Surgical Dressings, &c.... 30
Millikin & Lawley—Osteology, &c. .. 14
Nuffke—
Fermentation Saccharometer 13
Paechtner & Co.—
Cooling Pad ... 14
Pond—Toe Spring ... 13
Pope & Plante—
Elastic Stockings ... 17
Abdominal Supporting Belts ... 17
Robinson & Sons—Gamgee Tissue 66
Woods—
Eureka Crêpe Velpeau Bandages.. 67

MINERAL WATERS:—
Contrexeville Pavilion ... 92
Davis—Tarasp Water ... 65
Friedrichshall Aperient Mineral Water 65
Hogg & Son—Piperazine Water ... 63
Ingram & Royle—
Carlsbad Salts ... 56
Vichy ... 55
Jewsbury & Brown—
Mineral Waters ... 64
Robinson's Concentrated Waters.... 64
Voigt & Co.—
Wiesbaden Gout-Water ... 62

PAGE

PHOTOGRAPHY:—
Martin—Developing Reliable Film .. 92
No. 618, L.O., Strand—Skiagraphs 91

PRINTERS & ENGRAVERS:—
Cooke & Co.—
Brass Name Plates and Lamps 12
Cullleton—
Brass Door Plates ... 13
Heraldry, &c. ... 13

SANITARY APPLIANCES &c.:—
Condy's Fluid ... 14
Defries & Sons—
Equifex Disinfector ... 59
Fele-Naphta ... 58
Newton, Chambers & Co.—Izal ... 42
Sanitary Wood Wool Co.—
Hartmann's Wood Wool Wadding 19
" Wood Wool Tissue .. 19
" Wood Wool Vaccination Pads ... 19
" Wood Wool Gonorrhœa Bags ... 19

TAILORS, BOOTMAKERS, &c.:—
Evans & Co.—
Riding and Polo Breeches ... 59
Frock Coat ... 59
Fisher & Sons—
Frock Coat and Vest ... 67
Trousers ... 67
Hamilton & Co.—
Dress Suit ... 67

TOBACCO, CIGARS, &c.:—
Wartmann & Co.—Cigarine ... 60

TYPEWRITING, &c.:—
Cambridge Typewriting Agency, Adelphi ... 12
Remington Typewriter Co.—
Card Index Prescription Book 13
Taylor's Typewriters Co.—
Typewriters ... 13

VACCINE LYMPH:—
Assoc. for Pure Vaccine Lymph ... 68
Faulkner's Calf Vaccine Institution .. 67
Hime—Glycerinated Calf Vaccine ... 64
Incorporated Liverpool Institute and Comparative Pathology ... 68
Jenner—Institute for Calf Lymph 67
Rebman—
Glycerinated Pure Calf Lymph .. 67
Renner's Calf Lymph Establishment . 67
Wyleys, Ltd.—Calf Lymph ... 68

WINES, BEER, SPIRITS, &c.:—
Back & Co.—"G S" Diabetic Whisky 65
Buchanan—
Black and White Scotch Whisky.. 21
Buchanan Blend Scotch Whisky .. 21
Dewar's Whisky ... 64
Gautier's Liqueur Brandy ... 65
Hennessy's Three Star Brandy ... 55
Martell's Three Star Brandy ... 56
The Orion South Australian Wines .. 57
Waltham Bros.—
Brown Stout ... 65
Nursing Stout ... 65

MISCELLANEOUS:—
Automoto Agency—
Motor Expert ... 17

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The Lumleian Lectures
ON
SOME DISORDERS OF THE SPLEEN.

Delivered before the Royal College of Physicians of London on March 17th, 22nd, and 24th,

By FREDERICK TAYLOR, M.D.,
F.R.C.P. LOND.,
SENIOR PHYSICIAN TO, AND LECTURER ON MEDICINE AT, GUY'S HOSPITAL.

LECTURE I.

Delivered on March 17th.

MR. PRESIDENT AND GENTLEMEN,—Since receiving and assenting to the request that I would deliver the Lumleian lectures this year I have experienced to the full the emotions which I gather other lecturers have on similar occasions sometimes gone through—a lively sense of the honour which you, Sir, have done me in asking me to deliver the lectures; a feeling of despair as to the choice of a subject which would be worthy of the occasion and of sufficient interest to serve for these lectures; the certainty that I should never be able adequately to deal with it; a determination to do my utmost to bring the matter to a successful conclusion; and, finally, the firm conviction that in that attempt I have largely failed. Still, in this last conviction I do not wish to be too hasty or to regard it as too deep-rooted and I shall be only too glad if your verdict on my efforts is somewhat more favourable than my own.

I have chosen for my subject Some Disorders of the spleen, partly because I was under the impression that the disturbances of this organ were not too widely known and partly from the knowledge that a great deal of importance and interest has in recent years been ascertained. A subject of this kind—that is, the diseases of one of the organs of the body—can be treated in several ways or from several points of view—namely, the historical, clinical, coarsely anatomical, histological, and experimental. It will be at once seen that in the course of three lectures it will be impossible adequately to deal with the whole of such a subject and that either the extent must be curtailed or the lines of inquiry must be limited. I may say at once that I have attempted to deal with the subject from the clinical and coarsely anatomical standpoints so far as the material which I am able to bring forward is concerned, depending upon others for information as to the histology of the organ. Indeed I can only regard this as a contribution to a subject which is yearly becoming ever larger and larger.

In order to get some idea of the frequency of the various lesions of the spleen I have had search made of the post-mortem records of Guy's Hospital during a period of ten years—namely, from 1892 to 1901—and I must here express my indebtedness to Dr. David Forsyth for the valuable assistance he has given me. They present a large variety, not perhaps a greater variety than might be found in any other organ, but a larger variety, I think, than is present to our minds generally when we are dealing clinically with our cases. In the ten years there were 4762 post-mortem examinations actually recorded and with but few exceptions the condition of the spleen has been noted. In an organ so variable in size and consistency as the spleen it is difficult to determine what deviations from the average shall be considered abnormal. But, including extremes of size and marked conditions of softness and hardness, there are more than 1800 cases in which the condition of the spleen might attract some attention. It will, however, serve no purpose to specify or to enumerate all the conditions of hardness or softness even amongst these, but it will be enough to deal with certain more pronounced conditions of disease. The pathological conditions of importance are those of inflammation, degeneration, growth, vascular obstruction and infarct, injury, and deformity, with which we are familiar in other organs and the chief point of interest is to note the frequency with which certain lesions occur. The most frequent conditions to be noted are capsulitis, various kinds of positive enlargement, tubercle, and infarcts. And I propose to say a few words of some of these.

CAPSULITIS OR PERISPLENITIS.

One of the most frequent lesions of the spleen is inflammation or thickening of its capsule. Of the cases of capsulitis, or thickening of the capsule, 83 are reported as acute and 368 as chronic; a total of 451, or nearly 10 per cent. of all the cases examined post mortem. The condition probably has little clinical importance and the variety of conditions associated with it is so great that not very much information can be drawn from it at present as to its causation. This variety includes the diseases of the heart, lungs, and abdominal organs and, indeed, almost every kind of infectious disease. One sees apparently the explanation in any condition of local inflammation of vascular disturbance, such as a general peritoneal or abdominal lesion, in obstruction to its circulation and hence congestion, in heart disease, and in cirrhosis, and in a similar condition of affairs brought out, as we know it must be, by the infectious fevers. Hence in acute capsulitis, of which there are 83 cases, the following conditions are found (Table I.):—

TABLE I.—*Acute Capsulitis.*

Infectious diseases—		
Tuberculosis and phthisis	24	
Typhoid fever	6	
Pyæmia	5	
Ulcerative endocarditis	4	
Pneumonia	3	>50
Broncho-pneumonia	3	
Pleurisy	2	
Suppurative meningitis	1	
Diphtheria	1	
Syphilis	1	
Heart disease		8
Cirrhosis of the liver		4
Renal disease		7
Cancer of the abdomen or the pelvis		5
Unclassified		9
Total		83

Among cases of chronic capsulitis, giving them in the same order, we have as under (Table II.):—

TABLE II.—*Chronic Capsulitis.*

Infectious diseases—		
Phthisis	26	
General tuberculosis	24	
Tuberculous peritonitis	7	
Pneumonia	7	
Syphilis	7	
Malignant endocarditis	7	>94
Typhoid fever	4	
Broncho-pneumonia	3	
Empyema	3	
Tetanus	2	
Diphtheria	2	
Malaria	2	
Heart disease		49
Cirrhosis of the liver		25
Renal disease		35
Cancers, chiefly abdominal		40
Chronic peritonitis, perihepatitis, and gall-stones		16
Atheroma and aneurysm		17
Unclassified		92
Total		368

Contrasting the acute with the chronic, it is interesting to see some differences of conditions determining the event. Amongst the chronic there is a much larger group of unclassified causation—that is, of conditions the connexions of which with the capsulitis it is impossible to see or the frequency of occurrence of which is too little to enable one to draw inferences therefrom. Obviously also, while in the fatal illness the probable cause of acute capsulitis is before one, in chronic capsulitis the event may have taken place long ago and the fatal illness may really have nothing to do with it (Table III.).

ENLARGEMENT OF THE SPLEEN.

The next notable change is enlargement of the organ, which may arise from a number of causes. These may be roughly classified under (1) infections; (2) inflammations;

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TABLE III.—*Relative Frequency of Causes of Acute and Chronic Lapsalitis.*

—	Acute.	Chronic.
	Per cent.	Per cent.
Infectious	60·4	25·5
Heart disease	9·6	13·3
Cirrhosis	4·8	6·8
Renal	8·4	9·5
Cancers	6·0	10·8
Others	10·8	34·1*
Totals	100·0	100·0

* Includes 16, 17, and 92 in Table II.

(3) infarction; (4) passive congestion; (5) lardaceous disease; and (6) tumours, cysts, &c. The clinical aspect is inadequate—that is to say, I have only the records of five years' clinical cases and in them the number of large spleens found is but small. The figures, then, have this value only, that they show the relative proportions in which the organ is involved in different complaints as observed clinically. The figures I have are the following (Table IV.).

TABLE IV.—*Conditions associated with Enlarged Spleen.*

—	Enlarged spleens.	Per cent.
Typhoid fever	36	15·6
Leukæmia	25	10·8
Cirrhosis of liver	24	10·4
Lymphadenoma	17	7·3
Ulcerative endocarditis	15	6·5
Syphilis	11	4·8
Malaria	10	4·3
Mitral disease	9	4·0
Tuberculous disease	8	3·3
Pneumonia	7	3·0
Bronchitis	7	3·0
Splenic anæmia	7	3·0
Gall-stones	5	2·2
Anæmia	3	1·3
Various others	48	20·6
Total	232	100·00

Among these others at the bottom of the list are cases of rheumatism, dysentery, acute nephritis, gastric ulcer, sarcoma of the lung, bronchiectasis, appendicitis, chronic peritonitis, carcinoma of the uterus, and perihepatitis. The list is not large enough to give information in more detail and all one can see in it when one has taken out the disorders sometimes regarded as primary diseases of the spleen—viz., leukæmia, lymphadenoma, and splenic anæmia—is the powerful influence of enteric fever, cirrhosis, and ulcerative endocarditis, and the somewhat less marked influence, or less frequent influence, of syphilis, malaria, and heart disease, represented especially by the mitral form. The records of post-mortem examinations give not much more precise information as to the size of the spleen in various cases, but of course the observations are limited to fatal cases and the proportionate frequency of actual occurrence cannot be expected to appear. Out of the total number of post-mortem examinations in ten years there were 379 cases of spleens of ten ounces in weight and upwards. They have been divided into several groups and may be tabulated as follows, but they do not include the special disorders already referred to—viz., leukæmia, lymphadenoma, and splenic anæmia.

On Table V. the following remarks may be made. Taking the spleens above 30 ounces in weight the largest spleen occurred in a case of cirrhosis and weighed 87½ ounces. The next two weighed 80 and 79 ounces in malaria and another malarial spleen was 53 ounces. The infective endocarditis spleens weighed 43, 35, and 30 ounces. The two typhoid fever spleens were 32 and 31 ounces. One large

TABLE V.—*Showing common causes of Spleens weighing Ten Ounces or more.*

No. of cases.	Weight of spleen.	Cirrhosis.	Infective endocarditis.	Malaria.	Typhoid fever.	Heart disease.	Tuberculosis.	Cancer.	Other causes.
22	30 ounces and upwards.	6	3	3	2	—	—	1	7
42	20-29 oz.	11	8	2	5	1	4	1	10
76	15-19 oz.	8	16	0	5	6	10	11	20
26	14 oz.	4	3	0	2	5	3	1	8
27	13 oz.	1	4	0	3	4	3	1	11
53	12 oz.	3	9	0	9	6	6	4	16
60	11 oz.	7	3	0	8	7	7	5	23
73	10 oz.	2	6	0	3	6	9	13	34
379	—	42	52	5	37	35	42	37	129

spleen weighing 72 ounces was associated with stricture and acute prostatitis; another of 63 ounces with gall-stones. The other great enlargements were in syphilis, cancer of the rectum, acute nephritis, atheroma, pneumonia, and in a case of rupture. In the spleens weighing from 20 to 30 ounces cirrhosis again stands at the head of the list with three of 28 ounces and one of 26 ounces, and another six weighed 21 or 22 ounces. Infective endocarditis has five spleens of from 26 to 28 ounces, typhoid fever two of 26 and 27 ounces, and in the two malaria cases it weighed 25 and 27 ounces. The other less well represented conditions are the same as in the preceding group, with the addition of phthisis (not lardaceous) three times, obesity, pyæmia, spinal abscess, and multiple thromboses. The examination of Table V. shows that among the very large spleens only a few causes are strongly represented—namely, cirrhosis of the liver, malaria, typhoid fever, and ulcerative endocarditis. In the middle-sized spleens these still hold an important place (except malaria), but others come to the front—namely, heart disease, tuberculous disease, and phthisis (apart from the production of lardaceous disease), and to a certain extent sarcoma and carcinoma of various organs. In the smallest sizes of large spleens the causes are much more evenly distributed. The four causes of great enlargement are no more strongly represented than are the three causative conditions last mentioned and the number of cases in which the cause of death is not one of these and perhaps shows no apparent relation to the spleen is increasingly numerous. Of 129 cases not analysed in the preceding table a few disorders take a prominent part, although they are not so frequently represented as the others already selected. They are: pneumonia, with 11 cases; acute, chronic, tubal, and mixed nephritis, eight cases; atheroma, nine cases; granular kidney, 14 cases; and pyæmia, five cases. In a case of general pneumococcal infection the spleen weighed 12 ounces. Of these 129 cases nearly half—i.e., 63—are definitely or presumably of an infective or microbic nature. This does not include the chronic and mixed nephritis. If these be added, as well as some surgical cases which may possibly have been septic (hernia, fracture, gall-stones, and thrombosis), there are then 78 cases out of 129, or nearly two-thirds, which are of this nature.

ATROPHY OF THE SPLEEN.

Before proceeding to speak further of the enlargements of the spleen which form such a common feature in its pathology I may say a word of the converse condition—atrophy—and of the growth in it of tumours. Of the spleens examined 80 weighed under three ounces (1·7 per cent.). Of these, 39, or nearly half, weighed over two ounces; another 27 weighed two ounces; leaving 14 under two ounces. This matter is quickly disposed of, as a very large proportion were in cases of cancer, of epithelioma, and of sarcoma. The first involved always the abdominal organs and showed 13 cases; the second, the alimentary and genito-urinary tracts, and showed 14 cases; while sarcoma was more widespread, with four cases, making a total of 31. Of the remainder there were ovarian cysts, two cases; herniotomy, six cases; fracture, six cases; granular kidney, three cases;

septicæmia, two cases; and burns, two cases; making a total of 21. Among the 80 cases of small spleens five occurred in quite old people of the ages respectively of 70, 72, 76, 78, and 80 years. The large proportion of new growths, amounting to three-eighths of the whole, is interesting. But it must be remembered that cancer and epithelioma of internal organs are also strongly represented among the enlarged spleens. There were, however, only 37 cases among 379 altogether—that is, 9·8 per cent., against 31 out of 80 small spleens, or 38·75 per cent. New growths, then, appear to operate against the enlargement of the spleen; and incidentally it may be remarked that this does not at first sight support the view of the infectious nature of these new growths. Or, to put it more guardedly, if subsequent investigation should show corresponding figures, the failure of the spleen to be enlarged would require special explanation on the theory of the infectious nature of cancerous new growths. These relations of the spleen are in accordance with the observations of physiologists upon the proportionate diminution of organs and tissues during inanition. In Voit's observations the spleen came next to adipose tissue in its percentage loss. In a cat killed after 13 days' deprivation of food adipose tissue lost 97 per cent., the spleen 67 per cent., and the liver 54 per cent. of the fresh organs. In 100 parts of dry tissues the spleen lost 63 per cent. and the liver 57 per cent. Researches by Tominaga on the amount of nitrogen loss during a prolonged starvation period in rats and rabbits showed the spleen at the head of the list, losing 98·48 per cent. in the rat and 67·06 in rabbits; but these results appear to want confirmation.

NEW GROWTHS IN THE SPLEEN.

Another point that I may pass quickly by is the occurrence of new growths in the spleen. This is comparatively rare; and if we exclude tubercles and the lymphoid masses occurring in Hodgkin's disease the cases of tumour or growth in the course of ten years probably amount to less than 1 per cent. These include cretaceous and fibrous nodules and occasional gumma or hydatid cyst. Even cancer is rare and rare out of all proportion to its occurrence in the liver or kidney. In 677 cases of carcinoma, epithelioma, and sarcoma the spleen was affected only 23 times and the accompanying table (Table VI.) shows the site of the primary growth.

TABLE VI.—*Primary Lesion in 23 Cases of Malignant Disease of the Spleen.*

Carcinoma of the stomach	6	cases.
,, ,, gall-bladder	3	,,
,, ,, mamma	2	,,
,, ,, colon	1	,,
,, ,, sigmoid flexure	1	,,
,, ,, omentum	1	,,
,, ,, peritoneum	3	,,
Epithelioma of the œsophagus	1	,,
Cancer of the ovary and rectum	1	,,
Proliferating ovarian cyst	1	,,
Sarcoma of the omentum	2	,,
,, ,, stomach	1	,,
Total	23	

The remarkable prominence of the abdominal organs as the source of the cancer is perhaps what one would expect, seeing on the one hand its frequent origin in the epithelial structures there existing and on the other the great difficulties in the surgical treatment of cancer in this part. But it is also partly explained by the following considerations. Only seven times was it a case of true metastasis as far as the spleen was concerned. In the majority of cases, 16, the spleen was invaded by direct contact from other organs—the stomach, the pancreas, or the peritoneum. Of the remaining seven cases, five of carcinoma, one of epithelioma, and one of sarcoma, the nodules were independent of adjacent or contiguous new growth. The primary growth in these seven cases was: in the gall-bladder, mamma (two cases), colon, sigmoid flexure, œsophagus, and stomach. Of course, this contrasts strikingly with the frequency with which abdominal cancer is repeated in the liver and it tends to show the influence of coarse transmission by veins and the absence of any general diffusion of any cancer germ cell or body throughout the circulation generally.

INFECTION AS A CAUSE OF ENLARGEMENT OF THE SPLEEN.

The relation of infection to enlargement of the spleen is well known and is illustrated by the results I have given. The most frequent causes of a really large spleen are enteric fever, malaria, and malignant endocarditis, while other frequent causes are pneumonia and tubercle. It is true that some of the largest spleens are produced under conditions not commonly regarded as, or at least not proved to be, infectious—namely, leukæmia, cirrhosis, splenic anæmia, pseudo-leukæmic infantile anæmia, and allied conditions. But this very fact of the enlargement, coupled with the constant association of splenic enlargement, with various infections, justifies one in carefully considering how far they also may be determined by infections, unless it can be shown clearly that mechanical conditions are adequate to produce the swelling. The spleen in cirrhosis of the liver appears to be the typical example of an organ enlarged by passive congestion, and though it is possible, and is believed by many, that cirrhosis may be caused by a local infection, this is too far from being proved to disturb as yet this explanation of the state of the spleen. The support which the mechanical theory might be expected to derive from the fact that portal thrombosis or pylephlebitis adhesiva causes a large spleen is weakened by the suspicious relations between thrombosis and infection. The pathology of the spleen cannot be entirely settled by a reference to the clinical and pathological records of a general hospital, from which, for instance, are excluded designedly a very large number of the infectious diseases which occur. Had we the post-mortem results of scarlet fever, measles, and small-pox or typhus fever our list of enlarged spleens might be much more numerous. At the same time it must be admitted that clinically the enlargement of the organ in these diseases is not always an important feature. The following are recognised infectious diseases in which the spleen is known to be occasionally or constantly affected: typhus fever usually; enteric fever, relapsing fever, and malaria, with great constancy; measles and scarlet fever on the authority of Friedreich and Trojanowsky; variola; glandular fevers in more than half the cases; Malta fever always; diphtheria frequently; influenza; Weil's disease sometimes; and pyæmia. In anthrax the spleen is generally larger than natural, or half as large again, or double the natural size. In acute dysentery it is full and soft; in chronic dysentery it is markedly large but sometimes small. In beri-beri it is increased in bulk and weight but the influence of the failing circulation may here operate in part. In tubercle the organ often contains miliary or caseous nodules but it is also certainly enlarged sometimes. Congenital syphilis is probably, as shown by the results in phthisis, responsible for many enlargements in infants, as will be pointed out later. Tertiary syphilis causes gumma and lardaceous disease of the spleen. In leprosy it is stated that no naked-eye changes are present but bacillus-bearing cells may be found in profusion. Actinomycosis may invade the spleen from the bowel but the arrival of the germs by the blood-current is probably rare. I have already shown how often the spleen is enlarged in that obviously infective process pneumonia.

I have so far found little that is definite as to the implication of the spleen in rubella, varicella, mumps, whooping-cough, cerebro-spinal fever, dengue, cholera, sleeping sickness, early acquired syphilis, tetanus, rabies, glanders, foot and mouth disease, and rheumatic fever, and it is often expressly stated that the spleen is not enlarged in yellow fever, but Scheube states that it sometimes is enlarged, hyperæmic, and soft.

The spleen again appears to be little, if at all, enlarged by the different kinds of intoxication, whether by food poisons, snake poison, alcohol (directly), or by the different metals and chemical substances. Dr. T. Oliver (in his article on this subject in Clifford Allbutt's work) expressly states that in phosphorus poisoning the spleen is not enlarged.

To the above infectious diseases may be added Landry's paralysis, which is highly probably an infectious disorder, and pernicious anæmia. Similarly splenic anæmia is under a strong suspicion and to a less extent Hodgkin's disease, the different varieties of leukæmia, and rickets. An interesting communication to the British Medical Association by Dr. George Carpenter may be here referred to.[1] He analysed 348 cases of enlarged spleen or splenomegaly in infants and children and the results have some bearing on our inquiry. I think it is clear that by the term "splenomegaly" he means only an organ presumably above the normal and it

[1] Brit. Med. Jour., August 29th 1903, p. 463.

will also no doubt be admitted that the spleen is more easily palpable in infants than in adults and therefore a belief in its enlargement may be more readily entertained. Dr. Carpenter's line between normal and large spleens may therefore be drawn rather closer down than might in post-mortem cases be desirable. But the relative figures that he gives have considerable interest. Out of 340 cases he has reason to believe that 147 (or 42·2 per cent.) are due to syphilis, and another 131 were connected with rickets. Dr. Carpenter does not make too much of this last connexion. He says that anæmia is not necessarily present, rickets may exist without a large spleen and rickets may get better and the enlargement of the spleen persist, or the rickets may get worse and the spleen get smaller. And therefore he regards splenomegaly as an epi phenomenon. 66 of the cases showed no evidence either of syphilis or of rickets and were associated with the following diseases: pneumonia, broncho pneumonia, chronic pneumonia, tubercle, jaundice, ascites, enteric fever, ague, lymphadenoma leukæmia, congenital heart disease, and Parrot's nodes. This list reminds one of those I have above given and the infectious element is largely represented. He has not infrequently noticed the association of catarrhal jaundice with enlargement of the liver and the spleen. This might be explained by the obstructive enlargement of the liver causing mechanical congestion of the spleen. But, on the other hand, there are many points in favour of an infectious origin of ordinary catarrhal or simple jaundice, of which the existence of an epidemic jaundice is one.

In a communication to the *Practitioner* (December, 1903) Dr. G. F. Still calls attention to the relations of congenital syphilis and enlarged spleen. He alludes to Gee as having said that one quarter of the cases of congenital syphilis show enlargement of the spleen and he refers to a recent article by Marfan[2] who finds splenic enlargement in half the cases of congenital syphilis. Marfan considers that syphilis is by far the commonest cause of splenomegaly in infants and that this splenomegaly is accompanied often by anæmia and by some enlargement of the liver and of the lymphatic glands. This brings us very close to the splenic anæmia of infants, of which I propose to speak later.

PHTHISIS.

There are two special forms of infection which are largely represented in the wards of a general hospital. Pothisis supplied 131 cases in which the spleen was affected. It has been already stated that 42 cases out of 379 of enlargement to 10 ounces and upwards were due to phthisis and tuberculous lesions. In phthisis alone 52 cases out of 131 were more than seven ounces in weight and were not lardaceous. In 19 the spleen was lardaceous, giving a percentage of 14·4. This corresponds sufficiently nearly with the general percentage of all organs for lardaceous disease in phthisis, which has been put at 10 and 20 by different writers. Only one further fact of interest comes out of this. The average weight of the lardaceous spleens was seven ounces and the largest of them 14 ounces, whereas the largest of the non-lardaceous spleens was 11 ounces and the average of them was 25 ounces.

INFECTIVE ENDOCARDITIS.

The tendency of infective endocarditis to cause enlargement of the spleen has already been shown. It is one of the four conditions which, apart from leukæmia and Hodgkin's disease, produce the largest spleens, the others being cirrhosis, malaria, and typhoid fever, and this in spite of the moderate shrinking which infarcts commonly undergo after a little time. The enlargement is obviously of the nature of an infective swelling, such as we see in typhoid fever, malaria, and other infectious processes. Some interesting figures come out here. Taking the whole number of cases of infective endocarditis in which the weights are recorded in the ten years 1892–1901 they amount to 77. The average weight of the spleen was 13 ounces. It has been already shown that 52 cases had a weight of ten ounces or upwards, and the greatest weights were 43 and 35 ounces; in another ten cases the spleens were seven ounces, eight ounces, or nine ounces; and in the remaining 15 only was the spleen below what may be regarded as an average weight. That the size was not determined by infarcts is shown by the fact that infarcts were present in spleens of five ounces weight only.

As to the changes that take place in the spleen as the result of infection it has generally been considered enough to say that the organ is in a state of inflammatory congestion. But it is interesting to note that the term splenitis is not in common use as applied to these changes, nor indeed is the idea of an inflammation so much as that of a temporary congestive process generally entertained. The rapid enlargement and subsidence in ague and the obvious dependence of the typhoid enlargement on the course of the fever will probably explain this, together with the fact that the termination is in nearly every instance subsidence or resolution. Of course, it is recognised that in special circumstances suppurative inflammation occurs. Dr. Robert Muir, in a communication to the Pathological Society of London,[3] gives an account of the most important changes in the organ in infections. He says: "The phagocytic activity of the cells in the pulp constitutes an outstanding feature." The cells concerned are the non granular cells, partly hyaline leucocytes, and partly endothelial cells, so that there is a great increase in non-granular phagocytes. The swelling of the organ is in part due to accumulation of more or less damaged elements which are to a great extent destroyed. The elements chiefly destroyed are bacteria, neutrophile leucocytes, red corpuscles, and other degenerated cells. In the rabbit's spleen one can see non-granular cells containing as many as 20 or more red corpuscles and half a dozen neutrophile leucocytes in various stages of disintegration. Neutrophile leucocytes and red corpuscles also undergo extra-cellular digestion. Another feature of infection is the occurrence of myelocytes in the splenic pulp. This is especially the case in a severe form of infection, of which hæmorrhagic small-pox is an instance. A third condition is proliferation of cells. This affects to a very slight degree endothelial cells and the hyaline leucocytes in the pulp, but a more pronounced condition is one of proliferation of cells at the margin of the Malpighian bodies so as to form a distinct zone round the corpuscles and give them the appearance of enlargement. The cells involved are of larger size than lymphocytes and have a relatively abundant protoplasm, which is distinctly basophile in reaction. Dr. Muir thinks that these cells afterwards move outwards into the pulp. Gaylord and Aschoff give a similar account. A scraping, they say, shows small lymphocytes, large granular cells, pulp cells which resemble the large mononuclear cells of the blood, polymorphonuclear cells, and the sickle-shaped endothelial cells and distended elements, of which the protoplasm contains red blood corpuscles or fragments of the same. As compared with the healthy spleen the scraping shows more endothelial elements and more poikilocytic cells. Further, there are obvious degeneration and fatty processes going on. They lay more stress upon the phagocytic action of the endothelial cells and Dr. Muir attaches equal importance to either. The suggestion has been made that the spleen is likely to be larger in those infectious processes in which micro-organisms are actively circulating in the blood. This is at least borne out in the case of typhoid fever, malaria, relapsing fever, and infective endocarditis. Of these, as already pointed out, typhoid fever, malaria, and infective endocarditis provide a considerable number of the quite large spleens, while the organ is very constantly enlarged, if not very greatly, in relapsing fever. The organisms of typhoid fever malaria, and relapsing fever are constantly found in the spleen, while those of endocarditis maligna are well known to have been in the blood in a sufficient number of instances.

CIRRHOSIS AND SPLENOMEGALY.

In connexion with cirrhosis of the liver and its relation to enlarged spleen attention must be called to the occurrence of cases which have been described as splenomegalic cirrhosis. I have been, I had almost said, guilty of publishing a case under this title. The culpability lies in the use of a word implying that an accompanying large spleen is distinctive of any particular form of cirrhosis, when it has been already shown that out of enlarged spleens more than one-eighth (13·8 per cent.) are related to cirrhosis of the liver, when it is known that an enlarged spleen is a very common result of cirrhosis, and when it is shown that of 42 large spleens in cirrhosis six weighed 30 ounces or more, 11 from 20 to 29 ounces, and eight more from 15 to 19 ounces. The justification for its use is the fact that some cases occurred in which the spleen is exceedingly large. For instance, in a case which I published a few years ago[4] the spleen weighed at death 87½ ounces in a boy not quite 15

[2] Annales de Médecine et Chirurgie Infantiles, May 15th, 1903.

[3] Transactions of the Pathological Society, 1902, p. 379.

[4] Guy's Hospital Reports, vol. lii., p. 55; vol. liv., p. 1.

years of age and clinically it presented the shape, size, and position of a leukæmic spleen, occupying the whole left side and lower part of the abdomen and reaching four and a half inches across the middle line into the right iliac region. About the time of the publication of my case the subject was being discussed in Paris and divergent views were held as to the relations of the spleen to the liver, some at least believing that the splenic affection might be primary or at least antecedent to the hepatic cirrhosis. But even admitting the early appearance and predominance of the splenic lesion, it was possible to believe that some common source of infection in the intestine might act first of all, or more productively, upon the spleen, and so neither of them would directly cause the affection of the other, but the two would be results of a common cause. At that time M. Landrieux and M. Milian had recorded the case of a man in whom the cirrhotic liver weighed 1900 grammes (or 67 ounces) and the enlarged spleen 2700 grammes (or 90 ounces). It will be seen that in both these and in my case the spleen was large out of all proportion to the liver, although the liver was in each case far above the normal. The attempt to discriminate the cases of splenomegalic, meta-splenomegalic, and pre-splenomegalic cirrhosis, according as the splenic and hepatic changes were simultaneous or one in advance of the other, cannot be considered wise, as the time relations can only be observed clinically and the actual first change, whether in one or the other organ, eludes observation. But there are other interesting features in these cases—namely, the stunted growth of the individuals where the disease has begun in early life, pigmentation of the skin, and clubbing of the fingers and toes. Two of these—the clubbing or Hippocratic fingers and the stunted growth—are associated by Lereboullet[5] with the biliary cirrhosis and not directly with the splenomegalic element. Lereboullet, in his thesis on "Les Cirrhoses Biliaires," uses the term splenomegalic in reference only to the size of the spleen and obviously not as connoting thereby the seat of its commencement. Indeed, he would obviously class my case as one of hyper-splenomegalic cirrhosis. And he divides all cases in the following way: (1) common hypertrophic biliary cirrhosis or Hanot's disease or splenomegalic biliary cirrhosis; (2) hyper splenomegalic biliary cirrhosis; (3) micro-splenic or asplenomegalic biliary cirrhosis; and (4) atrophic biliary cirrhosis. Describing the organs as they are seen in biliary cirrhosis in general he says that the spleen macroscopically is voluminous, of variable volume, often losing bulk after a fatal hæmatemesis, of natural shape, often with more marked patchy splenitis, even with extreme cartilaginous plates. The tissue is sometimes soft and diffluent and at others firm, with a dark red section showing, but not always, an exaggerated development of Malpighian corpuscles. Often the appearance is only that of a congested spleen. In the case of Landrieux and Milian the surface presented numerous smooth projections where the parenchyma was firm, whilst elsewhere it was diffluent. Infarcts were also present in this case. In reference to the histological conditions Kiener, in a case which he has published, shows that the lesions were neither those of a cyanotic spleen (*une rate stasique*), as in ordinary cirrhosis, nor those of a spodogenic spleen—that is, one charged with the residues of destruction of blood globules, as in malaria and intoxication. He found that the lymphatic system was affected and that there was a notable hypertrophy of the Malpighian corpuscles. The histological examination showed a reticulated tissue extremely rich in cells and this lymphatic hyperplasia prolonged itself along the arteries. He concluded that it was a lymphogenic spleen like that of lymphadenoma, tuberculosis, and other infectious diseases. Lereboullet in the cases he himself examined found most often, especially in the most advanced cases, congestive conditions—the pulp gorged with blood and the Malpighian corpuscles, though distinct, but little hypertrophied; further, very little perisplenitis and little trabecular thickening. The last two conditions, however, predominated in the case of Landrieux and Milian. There was generally no material difference between the sections of splenomegaly and those of the hyper-splenomegalic organ. Sometimes the pulp is charged with pigment and at others this was absent. In reference to the nature of the cell structures in the pulp he allows that there is an excess (hypergenesis) of lymphoid tissue, but though this may suggest an infective association the predominant fact is, he thinks, congestion.

[5] Les Cirrhoses Biliaires, Paris, 1902.

As to the important question of the relation of the enlarged spleen to the liver, Lereboullet ranks himself with those who regard the spleen, however big, and however long antecedent in its appearance to the hepatic enlargement and jaundice, as still affected as a result of the hepatic lesion and not as the primary cause. Admitting intoxications and micro-organisms as possible original causes he still thinks that it is from the liver that the spleen is affected and not the liver from the spleen. He sees no great difficulty in the conception of an infection being conveyed against the current of blood in the splenic vein; he attaches much importance to congestion as a factor in the splenomegaly; he shows that in any case the size of the spleen may vary a good deal so that the relative size of the two organs is not a guide as to which was first diseased; and he adduces the strong case recorded by Dr. J. Finlayson[6] of the three children in one family, all of whom had biliary cirrhosis, one with a large liver and a large spleen, another with a very large spleen and slightly hypertrophied liver, and the third with a liver and spleen equally enlarged. He claims as an important element that of age, these combinations occurring much more in children than in old persons. He makes the further proposition that "the spleen reacts to infections of the liver much more often and much more than it reacts to general infections. This reaction is much more frequent than the reaction of the liver to the splenic lesion." And he goes so far as to suggest that cases of Banti's disease may have to undergo a revision from this point of view. The time for this scarcely seems to have arrived. His final conclusions are that biliary cirrhoses are the results of infection; that it is neither a general infection, nor an infection with the predominant localisation in the liver and spleen, nor an infection with the primary localisation in the spleen; but that it is "an ascending biliary infection due to germs proceeding from the intestines." The infection only becomes cirrhogenic in persons predisposed to it. An allied condition, perhaps an early condition, is that called by him splenomegalic jaundice, in which with a large spleen and jaundice there is a moderate enlargement of the liver. Several of the cases reported under this head have had typhoid fever or malaria in their former history. In my own case there was no opportunity of ascertaining the true relations of the splenic and hepatic enlargements. These were both considerable when the patient first came under responsible observation.

DISORDERS OF THE BLOOD.

Among chronic splenic tumours besides those due to the infective diseases already specified we have certain diseases well known by name to all, but by no means exceedingly common, enlargements intimately connected with what may be called coarse changes in the blood but connected by links which may even now be held to be in great part missing. I refer, of course, to the spleens of leukæmia, of Hodgkin's disease, of splenic anæmia, and of the disease which has been burdened by the cumbersome name of anæmia pseudo-leukæmica infantum. The recognition of the leukæmic spleen in all but the earliest stages, and certainly in most cases, is easy, because leukæmia is a definite and distinct condition. The recognition of Hodgkin's disease also, so far as the spleen is concerned, does not as a rule present great difficulties—that is to say, that one will rarely be prepared to recognise a case of splenic enlargement as Hodgkin's disease unless some lymphatic glands were enlarged at the same time. And though it is, of course, conceivable that a case might occur with deep-seated, inaccessible, and unrecognisable lymphatic enlargements with manifest splenomegaly, I am not aware that attention has been called to a case realising this supposition. But splenic anæmia and infantile splenic enlargements present obvious difficulties which are by no means always solved clinically. I take the case first which occurs in infancy and early childhood. Are all the splenic enlargements associated with a little anæmia but without leukæmia or enlarged glands, to be called splenic anæmia? By common consent, no; and it has been the endeavour of numerous writers in the last few years to formulate the characters which shall distinguish a splenic anæmia from other groups of splenomegalic cases. The distinctive features which were first formulated were mainly in contrast with splenic leukæmia—that is, (1) anæmia, (2) enlarged spleen, and (3) absence of leucocytosis were the three chief features.

[6] Glasgow Hospital Reports, 1898.

Soon were added to these a relatively long duration—that is, three or four years—a chlorotic type of the blood, and coincident moderate enlargement of the liver. The absence of any other familiar cause of enlargement of the spleen, such as cirrhosis, infective endocarditis, malaria, or syphilis, is of course pre-supposed. Professor W. Osler, in his clinical collection of 15 cases,[1] lays stress upon three other points—namely, the long duration of the diseases, the occurrence of hæmorrhages, and a very small leucocyte count, or leucopenia. In a later communication[2] he develops these points. He shows that the duration may be ten or 12 or even 25 years, with a splenic enlargement the greatest that occurs after that of leucocythæmia, that hæmatemesis is a frequent form in which hæmorrhage takes place, that the oligocythæmia is moderate, that the hæmoglobin loss is greater proportionately than that of the red corpuscles, and that the leucocytes are less abundant than normal—that is, there is leucopenia. He further points out that pigmentation of the skin often occurs. With regard to the size of the spleen Dr. Osler is no doubt right, and one should not hastily assume that a case is splenic anæmia unless the spleen is of great size, although, of course, every spleen must be rather larger than normal and of moderate size before it is enormous; and if it be true that in splenic anæmia the spleen always is enormous, it is only the expression of this fact that the enlargement takes place very insidiously, causes no symptoms—not even weight or pain, not even anæmia or malaise—until it has reached very great dimensions. Among Professor Osler's own 15 cases (p. 9 of reprint) the spleens are all described as "very large," "greatly enlarged," or "enormous," and yet on reading the details of the cases one finds that while some of the spleens reached nearly to the crest of the ilium, one 18 centimetres below the costal margin, some of them reached only to the level of the umbilicus, and one almost to the navel; two reached 7 centimetres below the costal margin. Among the cases which he has collected from other sources there is much less uniformity in the size of the spleen. In the 12 acute cases a more or less definite idea is given in five; one weighed 1270 grammes (44½ ounces) after death; one reached the middle line and nearly to the crest of the ilium; another was half way to the navel; another was three fingers' breadth below the costal margin; but the last was only two fingers' breadth below it. In the 26 chronic cases the size is really given in only six instances. In one the spleen weighed, post mortem, 2400 grammes (85 ounces); in another it reached below the navel after three years and into the pelvis after nine years; in another it reached below the navel; in another it reached to the navel; in another it was a hand's breadth below the costal margin; and in the last it was 8 "cubic millimetres" below the costal margin—doubtless a misprint for 8 centimetres or three and a quarter inches. In the other cases it was either "enlarged" or "greatly enlarged," and once it was "enormously enlarged."

Dr. H. D. Rolleston, in opening a discussion on this subject at the meeting of the British Medical Association at Swansea last year,[3] sketched the characteristics of the complaint in almost identical terms: (1) Splenic enlargement which cannot be correlated with any known cause; (2) absence of enlargement of the lymphatic glands; (3) anæmia of the type midway between secondary anæmia and chlorosis; (4) leucopenia, or at most, no increase in the number of white blood corpuscles; and (5) an extremely long course, lasting years, and a tendency to periodic hæmorrhages, especially from the gastro-intestinal tract. These criteria are naturally drawn up from the consideration of complete cases—that is, cases of long duration or already fatal. And the question is how far they may serve for the recognition and selection of cases comparatively recent. Almost as much, if not as much, interest centres about a clinical case of greatly enlarged spleen for which a cause cannot be found as about an actual case of splenic anæmia. And in passing from the groups of enlarged spleen already considered among my pathological cases one comes next to cases of enlargements seen clinically which do not conform to the above criteria of splenic anæmia and which are otherwise not readily explicable. It will be seen from the tables that for the large majority of greatly enlarged spleens found post mortem a cause is found, and that even in the case of those smaller ones the patients have often died from some infectious process which may be considered to have some share in the splenomegaly. But it must be admitted that among these spleens of less enlargement the associated pathological condition is not always of a nature to explain the hyperplasia. And during life it is by no means always easy to formulate a cause of an enlarged spleen of chronic nature, or at any rate of some duration, not accompanied by anæmia, or at any rate by an anæmia of any intensity and not associated, it may be, with any but the mildest symptoms. Among medical reports of cases in Guy's Hospital which were not fatal—or at any rate did not come to post-mortem examination—the proportion of those in which certainty was difficult of attainment is relatively large. Thus, out of 39 cases of large spleen under these conditions 12 were cases of leukæmia, nine were associated with lymphadenoma, five were regarded as splenic anæmia, three as anæmia of uncertain origin, and ten remained uncertain. A short account of these may be interesting, but it will be seen that many of them can with some reason be referred to groups which we have been considering, and probably had they died and been subject to post-mortem examination such causes would have been found.

CASE 1 (1897, Dr. Goodhart).—The patient, a woman, aged 56 years, was admitted for pain and swelling in the left side of the abdomen. She had felt the pain first two years previously. There was occasional vomiting, she was losing weight, and the spleen was projecting into the abdomen for two or three inches below the umbilicus. The liver was moderately enlarged, the legs were œdematous, and there was slight albuminuria. The pulse was that of aortic regurgitation and there was capillary pulsation. The condition of the heart was not recorded. Later, epistaxis and some vomiting of blood occurred. The blood count was normal in respect of all corpuscles; the hæmoglobin was 30 per cent. Here aortic disease seemed likely to be a cause. Recent inquiries as to the patient's health have not been answered.

CASE 2 (1899, Clinical Ward).—The patient was a man, aged 26 years, who had a large spleen reaching three inches below the umbilicus, slight enlargement of the liver, and anæmia. The blood count was as follows: red corpuscles, 4,000,000 per cubic millimetre; hæmoglobin, 40 per cent. Leucopenia was present. There were apical and pulmonary systolic bruits and epistaxis often; but improvement took place under arsenic. It is conceivable that this was a case of splenic anæmia. No information is now obtainable.

CASE 3 (1898, Clinical Ward).—The patient was a girl, aged 14 years. Two years previously she had abscesses in the neck which "dispersed inwardly." One year previously she had a cough. Six weeks previously she had a fit and lost consciousness. After this she had swelling of the arms and legs and pain in the chest and the stomach. There were frequent vomiting and loss of flesh and the spleen reached nearly down to the umbilicus. Upwards there was dulness to the seventh rib. There were moderate anæmia and slight pyrexia. The red corpuscles were 75 per cent. and the hæmoglobin was 75 per cent.; there was no leucocytosis. The enlargement here was slight. There is but little clue to the cause. No information is now obtainable.

CASE 4 (1899, Dr. Pye-Smith).—The patient was a woman, aged 25 years. At 12 years of age she had intermittent swelling of the feet and recovered. At 16 years of age she had lumps in the leg, one of which discharged and left a scar. Five months before there were swelling in the leg, difficulty in breathing, weakness, and sleepiness; then acute joint pains and swelling. Two weeks before the abdomen was swollen; she was pale, weary-looking, and her joints were tender but not swollen. There were a few enlarged glands on the right side of the neck but none in the axilla; the spleen reached to about one inch below the umbilicus and nearly up to the middle line. There was a faint apical systolic murmur. The blood count was as follows: red blood corpuscles, 4,600,000 per cubic millimetre; later, 4,880,000; and hæmoglobin, 45 per cent. The temperature was normal. There was no ascites; the liver was not felt. Ulcerative endocarditis, or at any rate an origin of the splenic condition in cardiac disease, is likely. The apex murmur and multiple arthritis support this view. No information is now obtainable.

CASE 5 (1899, Clinical Ward).—The patient was a man, aged 30 years. He had been in India, had had typhoid fever and syphilis, but never malaria. Two months previously

[1] American Journal of the Medical Sciences, January, 1900.
[2] Transactions of the Association of American Physicians, 1902.
[3] THE LANCET, August 8th, 1903, p. 401.

a blow on the chest was followed by œdema and much pain; he was unable to follow his work. On admission he was very tender in the left epigastrium, there was an ill-defined sense of resistance, the spleen was just palpable, and there was a faint rub over it. The red corpuscles numbered 5,000,000 and leucocytes 8000 per cubic millimetre. A diagnosis of ruptured spleen was made and seems in the circumstances most probable. No information is now obtainable.

CASE 6 (1900, Dr. W. Hale White).—The patient was a woman, aged 45 years. She had had pneumonia five years previously. A week previously severe pain occurred in the chest. Four days later she noticed a lump in her abdomen. The patient was sallow and anæmic, the spleen reaching to the middle line and two or three inches below the umbilicus. The liver came just below the costal margin. The red corpuscles numbered 3,000,000 per cubic millimetre; there was no leucocytosis but there were a few poikilocytes. The heart's impulse was in the third space; there were no murmurs. Laparotomy was performed. The spleen was found to be much enlarged but less than was expected. Needling was negative. There was nothing to account for the displacement of the heart. A fortnight later the red corpuscles numbered 3,000,000 and the leucocytes 3400 per cubic millimetre and there were some poikilocytes. The patient is stated to have died from Bright's disease two years after leaving the hospital.

CASE 7 (1901, Sir E. Cooper Perry).—The patient was a woman, aged 35 years. Four years ago, a month after the birth of her last child, she noticed a lump in her left side which had grown since. She had been getting paler for three years. The legs became swollen on exertion. The spleen reached beyond the middle line below the level of the umbilicus. The liver could be felt on deep inspiration at the costal margin and always at the epigastrium. There was a soft apical systolic murmur. The blood count was as follows: red corpuscles 2,640,000 per cubic millimetre; hæmoglobin, 45 per cent. Leucocytes appeared in excess but the count was doubtful. A later film showed no leucocytosis and no myelocytes; later again the red corpuscles numbered 5,176,000 and the leucocytes 10,000 per cubic millimetre; the hæmoglobin was 50 per cent. There is no clue to the nature of this case unless it is one of early splenic anæmia. No information is now obtainable.

CASE 8 (1897, Sir E. Cooper Perry).—The patient was a boy, aged three years, who was born with a dark skin. The abdomen had been enlarged since he had had measles. He was well developed, apathetic, and had a dusky brown tint of skin. The liver and spleen were much enlarged, both reaching to the level of the umbilicus, neither feeling quite smooth. There were large glands in the groins and smaller shotty glands in the neck and the axilla. The red corpuscles numbered 5,800,000 and the leucocytes 21,000 per cubic millimetre; the hæmoglobin was 60 per cent. A few days later there was a slight increase of leucocytosis, chiefly lymphocytes. The patient went out of hospital, but when seen seven months later was in the same condition. It was regarded as a case of splenomegalic cirrhosis. No jaundice or clubbing of the fingers is recorded and the child is expressly stated to have been been well developed. His condition was the same six months later. No information is now obtainable.

CASE 9 (1897, the late Dr. Washbourn).—The patient was a boy, aged 13 years. At nine years old he had jaundice and an enlarged liver for which he was treated at the Evelina Hospital. The abdomen was then tapped. A few months later he had epistaxis and hæmatemesis. The last three weeks the abdomen had been swelling; there was vomiting but not of blood. There were anæmia, wasting, and diarrhœa; the spleen was over the middle line and below the level of the umbilicus. The edge of the liver was just felt. An apical systolic murmur was traceable to basal areas. There were enlarged submaxillary glands. The red corpuscles numbered 3,700,000 per cubic millimetre and the hæmoglobin was 30 per cent.; there was no excess of leucocytes. This was regarded as a case of cirrhosis of the liver with secondary enlargement of the spleen.

CASE 10 (1900, Clinical Ward).—The patient was a woman, aged 22 years, who was admitted for jaundice. 18 months previously the glands were removed by Mr. R. Clement Lucas from the right side of the neck. She had had jaundice four months previously. The feet were swollen three days before; there were anæmia, jaundice, œdema of the ankles, and enlarged glands in the neck. The spleen was about three inches below the costal margin and the liver was just below it. There was a pulmonary systolic bruit. The red corpuscles numbered 4,000,000 and the leucocytes 8000 per cubic millimetre. This may have been cirrhosis or, perhaps more likely, lymphadenoma, but it could not be regarded as splenic anæmia.

Thus, of these ten cases we have as probabilities, cardiac disease, two; rupture of the spleen, one; cirrhosis of the liver, two (of which one was called splenomegalic); Hodgkin's disease, one; splenic anæmia possibly in three; and too small for any possible diagnosis, one. The following is a case in which a post-mortem examination was made but without entirely solving the question as to the nature of the enlargement of the spleen.

CASE 11.—The patient was a man, aged 64 years, a ship's carpenter, weighing 15 stones, one of a very big family. His brothers and sisters weighed 14, 27, 27, and 26 stones respectively. Five years previously he poisoned his hand. Three years previously his legs swelled. Three weeks previously his legs swelled again and became black. He said that his nose bled readily. On admission there were œdema of the legs and dilated venules; the liver was two inches below the costal margin; the spleen reached to the middle line and extended two inches below the level of the umbilicus. There were a few rhonchi in the chest. The urine contained a trace of albumin. The red corpuscles numbered 2,750,000 and the leucocytes 5000 per cubic millimetre, and the hæmoglobin was 20 per cent. A fortnight later the red corpuscles numbered 4,000,000 and the leucocytes 5000 per cubic millimetre, the hæmoglobin being 40 per cent. Subsequently he had a purpuric rash. Then pneumonia occurred and he died. At the necropsy there were pneumonia and pleurisy with 22 ounces of fluid in the left chest. The heart was normal. The tricuspid valve was five and a half inches and the mitral four and a half inches. The arteries were atheromatous and the kidneys weighed 450 grammes (15 ounces); they had a granular surface; the cortex was diminished. The liver weighed 192 ounces, approaching a nutmeg liver in appearance. The spleen weighed 128 ounces, the capsule was thickened with old adhesions, tense, and suggesting fluid within. On section it was soft, the colour was normal, and there was no pigmentation, except at one area in the capsule. There was no definite history of malaria, though the patient's occupation may easily have led him into this infection. The condition of the liver and the kidneys suggests cardiac stagnation, but the spleen is unusually large to be explained by this alone.

There are also two cases unaccompanied by post-mortem examination which were not regarded as splenic anæmia but only recognised as having an associated anæmia.

CASE 12.—The patient was a man, aged 50 years. He had long lived in a malarial district in Kent and had the disease himself. He first noticed the abdomen to swell on the left side 18 months previously. He had lost flesh for six months and his legs had been swollen for two years. During the last nine days there was pain in the left side on deep breathing. On admission the liver was down to the costal margin and the spleen was occupying the whole left side and lower part of the abdomen, reaching the right iliac spine, and crossing the middle line above the umbilicus. The red corpuscles numbered 2,500,000 per cubic millimetre; the hæmoglobin was 32 per cent.; there was no leucocytosis, but there were many poikilocytes. He was in hospital a month without change of condition.

CASE 13.—The patient was a woman, aged 45 years. 12 months previously she had severe retching. Seven months previously she had an enlarged liver and jaundice, but no diarrhœa. On admission there were anæmia and tenderness over the colon, the liver was two or three inches below the costal margin, and the spleen was at least three inches below. There were a large indefinite swelling over the sigmoid flexure, a painful spot over the cæcum, and a cardiac systolic bruit in the fourth space. The red corpuscles were 13 per cent. There was slight leucocytosis—large granular variety chiefly. The retina was normal. There were vaginal discharges, menorrhagia, and occasionally blood with the motions. A fortnight later the red corpuscles were 20 per cent., the hæmoglobin 20 per cent., and there was albuminuria. Later the red corpuscles were 45 per cent. and the hæmoglobin 42 per cent. That was 24 days after admission. There was no increase of the white corpuscles. The anæmia on first admission seemed to have been extreme, but great improvement in little more than three weeks suggested that it was not a simple case of splenic anæmia, but its relations were with

other conditions or organs than the spleen alone. Cirrhosis was a possible explanation of the enlargement of the liver and spleen. Now, nearly eight years later, her health is bad; she had floodings until 12 months ago. Her legs were anæmic and pallid.

A consideration of all these cases shows that the diagnosis of splenic enlargement depends very little upon the condition of the spleen as such, but almost entirely upon the other associated conditions, especially the state of the liver, of the heart, and of the blood. The size alone it is which counts for anything, and this will be shown in the case of splenic anæmia and leucocythæmia splenica; in both of these the organ reaches large dimensions, which are, however, occasionally equalled in the case of splenomegalic cirrhosis and almost in infective endocarditis.

The Erasmus Wilson Lectures

ON

ACUTE INFECTIVE GANGRENOUS PROCESSES (NECROSES) OF THE ALIMENTARY TRACT.

Delivered before the Royal College of Surgeons of England on March 21st, 23rd, and 25th, 1904,

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LECTURE III.[1]

Delivered on March 25th.

THE BACTERIOLOGY OF ACUTE INFECTIVE NECROSIS.

MR. PRESIDENT AND GENTLEMEN,—In the preceding sections it has been attempted to prove to you that lesions of a similar pathological nature, acute infective necrosis or gangrene, occur in the stomach, the duodenum, the small intestine, the cæcum, the appendix, the large bowel, Meckel's diverticulum, strangulated hernia, and other forms of intestinal obstruction. To the naked eye the character of the lesion in perforated gastric, duodenal, and other ulcers, appendicitis, &c., is identical in each case. Hence the attempt has been made to urge singleness in the infective origin of the lesions. The discussion of the various organisms found in the peritonitic fluid and elsewhere in examples of such conditions has been reserved for the third lecture, when from the bacteriology a further attempt will be made to show the universal activity of micro-organisms and the probable supreme importance of the rôle of septic cocci in the production of infective necrosis. It is also hoped that much has been done to remove from the walls of the alimentary canal their traditional character for delicacy and their proneness to become gangrenous on the least provocation. The tissues of the alimentary tract are, in fact, liable to exactly the same laws of life and death as the others which constitute the body. But owing to the natural septicity of the contents of the intestinal tract moist gangrene—i.e., septic death or necrosis—is infinitely more common than dry gangrene, i.e., aseptic necrosis, if the latter exists there.

It has been shown that the integrity of the wall of the bowel was in a similar position to that of any other tissue in the body and that its blood-supply may be considerably interfered with without causing its death or necrosis. Then the influence of infective organisms was illustrated and shown to be the cause of cases more rapid and acute than those in which there was only interference with the blood-supply. It is now my endeavour to bring some light to bear on the various organisms which enter into the fray. In 1891 Fränckel drew attention to the bacteriology of peritonitis. He showed that the exudate derived from the injection of an irritant into the peritoneal cavity was at first sterile, yielding later abundant cultures of organisms. He obtained pure cultures of the bacillus coli communis in nine out of 31 cases of peritonitis; in seven he obtained pure cultures of a streptococcus and in one a pure culture of a staphylococcus. In 1893 Tavel and Lanz published the bacteriology of 59 cases of peritonitis. Their results showed the presence of the bacillus coli communis in over 50 per cent. of cases, being about equally as frequent in pure as in mixed culture. Streptococci came next in order of frequency, forming about 35 per cent. of cases, in which it was five times as often in mixed as in pure culture. Numerous other authors have published work since then, such as that by Hodenpyl, Welch, Barbacci, Malvoz, and so forth. Almost all of these authors found the bacillus coli communis to be by far the most frequent organism present and naturally have assumed it to be the cause of the peritonitis. Dr. H. P. Hawkins in his work on appendicitis took up the same attitude, but up to now the bacteriologists have not been guided in the interpretation of their results by the surgeon or clinician. Again, with the result of improvements in their science more accurate observations have been made. With these later methods Deaver publishes figures in his book on appendicitis from which the following percentages may be derived and which illustrate the differences in the bacteriology consequent upon the different clinical forms—namely, acute and chronic inflammation:—

Organisms.	I. Chronic appendicitis.	II. Acute appendicitis.
Bacillus coli communis	90 per cent.	70 per cent.
Ditto plus a staphylococcus	6 ,,	15 ,,
,, ,, streptococcus	Very rare.	7 ,,
Staphylococci	1 per cent.	4 ,,
Streptococci	Very rare.	Very rare.
Other organisms	3 per cent.	4 per cent.

The figures show very distinctly that pyogenic cocci are markedly more common in the acute than in the chronic forms both in pure and mixed culture, but, as might be expected, particularly so in the latter. A further distinction can be drawn as acute cases can be divided into those with a local abscess and those with diffuse infection or peritonitis. In the figures given by Deaver the pyogenic cocci are more frequently present with perforating than non-perforating ulcers of the appendix. Similarly, they are found more often in cases of diffuse peritonitis than with local abscess. When regarded from the clinical standpoint the figures seem to indicate that the more acute a case is, and therefore probably the earlier an operation is demanded, the more frequently are pyogenic cocci found. Barbacci, in 1892 proved experimentally that if almost any mixture of organisms are injected into the peritoneum and "sufficient time" allowed to elapse, only cultures of the bacillus coli communis could be obtained therefrom. This bacillus grows in common media with such rapidity and luxuriance that more slowly-growing organisms are swamped out and remain unnoticed.

In conducting a bacteriological examination with Dr. H. D. Singer[2] of a case of acute emphysematous gangrene the original cultures contained a streptococcus and a bacillus related to the bacillus coli communis and termed by San Felice the bacillus œdematis aerobius. The coccus was recognised in a 24 hours' culture and cover-slip preparations, but after that date it was lost owing to the rapid growth of the bacillus. If this is the condition in the laboratory it should be also the condition inside the body. Further experimentation with gangrenes and their organisms convinced me that these pyogenic organisms very materially assist the bacillus to obtain the start or impetus necessary in order for it to begin its career of ill and then the cocci may be lost entirely, being swamped out by the rapid growth of the bacilli. Mixed cultures were injected into guinea-pigs but only the bacilli were recovered, the streptococci being lost. Applying these two laboratory principles to the conduct of organisms in the body it is to be expected that the earlier a culture is taken the higher will be the percentage of streptococci to be found in it. Secondly, in the case of acute local appendicitis there will be a higher percentage present than that found in chronic cases. And yet again, in a rapidly spreading infection with diffusion of peritonitis a yet

[1] Lectures I. and II. were published in THE LANCET of May 14th (p. 1354) and 21st (p. 1410), 1904, respectively.

[2] Transactions of the Pathological Society, 1901, vol. lii., pp. 42-60.

higher percentage can be seen. Deaver's figures bear out all these considerations. And though one cannot regard it in consequence as proved there is ample circumstantial evidence upon which to base the suggestion that the pyogenic cocci are the great causes of acute infective necrosis and that later they are liable to be killed out by the growth of the bacillus coli communis and to be entirely absent from the cultures.

The previous reasoning answers very well for the case of streptococci, for though that is one of the most widely distributed of organisms it is very easily killed and lost in mixed cultures and may literally vanish before a member of the colon group. Staphylococci are a more various group which contains a number of very hardy members, tenacious of life. They are not nearly so easily killed and lost, and may even "stay out" the lives of the other organisms present in a mixed culture. One would therefore expect them to be found in peritoneal cultures more frequently throughout than streptococci are, and such is in reality the case. The figures bear out in every detail the statements which have just been made with regard to the various frequencies of the presence of staphylococci in chronic appendicitis, perforative and non-perforative appendicitis, appendicitis with localised abscess, or diffuse peritonitis. Moreover, in 4 per cent of acute cases and 1 per cent. of chronic a pure culture of staphylococci was obtained, apparently a very rare condition, indeed, with regard to streptococci. It is not easy to understand how the colon bacillus escaped culture.

The position that I would desire to put before you is this: that the action of organisms in the laboratory is carried out in the same way in the body and that surgery can come to the aid of bacteriology and interpret the clinical results and the actions. It is now disclosed that the more acute the case is the greater the abundance of the cocci of suppuration. The later the culture is taken the fewer these become if they are found at all. The obvious inference is that the first step in the pathological catastrophe of perforation is started by these pyogenic cocci, and owing to the subsequent "swarming" of our natural guest, the bacillus coli communis, their traces are hidden and they themselves very often die. In the paper with Dr. Singer, previously mentioned, it was found that the septic organisms in cases of mixed infection (of traumatic gangrene) are responsible for the bronzing of the skin which precedes the spread of the gangrene and seem to act as forerunners, injuring the tissues and rendering them an easier prey to the specific bacillus. The action is the same in the walls of the stomach or appendix as in the arm or leg, with the great exception that the thinness of the walls of the former results in their perforation and in the infection of so vast an absorptive surface as that of the peritoneum. A complete parallel exists between the known septic diseases of the skin and those largely unknown of the mucous membranes of the alimentary tract. An infection from the interior of the bowel, like that on the surface of the skin, by its very nature must be "mixed," consisting of many organisms, and must contain nearly always the vastly predominant organism of the bowel, the bacillus coli communis.

There is, however, a further lesson to be learned which is of such importance that I may be excused for mentioning it here. The presence of the bacillus coli communis is so widespread in our alimentary canal that no matter what organisms can grow there, it multiplies so rapidly that it must overcome other organisms and may exterminate them. Applying the same reasoning which has been used for the processes which go on in the laboratory and the pathological processes in the peritoneal cavity outside the intestine to the normal processes which take place inside the intestine, we are forced to realise that the bacillus coli communis will tend to destroy all invaders. And as when within the lumen of our intestines it is harmless to the tissues, it is beneficial to the individual, it must be continually saving us from innumerable ills by destroying harmful bacteria. Its action may be likened to that of the leucocyte in the tissues and the bacillus coli communis becomes recognised as our best friend, the knight-errant of our intestines, the phagocyte of our bowels. But as with all friends, evil communications corrupt good manners; on occasions intercourse with streptococci and staphylococci lead to its wildly rushing in the breach which these organisms have prepared and then the leaders of the insurrection are ruthlessly trampled on and killed out by the rabble of lusty bacilli which follow in their wake. History is repeated in the actions of the bacilli of our alimentary tract and revolutionary leaders are killed by the very rabble they raise. One point further, as a consequence of the above it is doubtful if the cultures made from a case represent all the organisms that have been concerned in the disaster. Caution must be always exercised in making deductions from the results so obtained.

Mr. W. Watson Cheyne in an admirable article upon inflammation says: "The effects of the organisms on the tissues vary with the kind that is introduced; for example, the staphylococci tend to form circumscribed abscesses, while the streptococci are especially concerned in the production of diffuse spreading suppuration." This is, of course, a perfectly general statement. Both kinds of pyogenic organism acting on a comparatively thin-walled organ like the stomach will be very apt to cause a perforation. But the action of the former will be to produce a local perforation, whilst that of the latter will produce perhaps a perforation which is merely a local sign in a more widely spread area of infection. In the former case the infection and perforation involve the same area; in the latter the perforation is but one part of the infection. Dr. W. Cayley, in the Transactions of the Pathological Society of London, 1902, p. 282, records a case of streptococcus infection of the stomach, phlegmonous gastritis. The change was especially noted in the pyloric end. Both mucous and serous membranes were intact, although the patient died from general peritonitis due to the diapedesis of organisms. Mr. Foulerton describes a case of pneumococcic gastritis on p. 286 of the same volume. In this the mucous membrane was necrosed, contrasting with its more or less healthy condition in Dr. Cayley's case. Again there was no perforation. Cases of epidemic streptococcus enteritis have been described, notably by Booker,[3] which have not been at all necessarily fatal. Streptococci can give rise on the skin to erysipelas which is a capillary lymphangitis; they can also cause cellulitis or a lymphangitis of the cellular tissue. The former is transient and can disappear entirely and I cannot help thinking that many acute gastrites, appendicites, and enterites are of a similar erysipeloid nature. The subject of the identity or relationship of the streptococcus erysipelatis with ordinary streptococcic suppuration will not be entered upon.

The tale of the staphylococci is different and an organism which typically causes a circumscribed abscess will in the gastric or intestinal walls cause a local perforation. These cocci are hardier than the streptococci are and will, I believe, be found to be the chief cause in the production of the acute infective necrosis of the alimentary tract. Of direct proof I can offer none, as my own unaided bacteriological efforts were such as could only be managed in moments snatched from the extremely busy life of the resident assistant surgeon of St. Thomas's Hospital, and though I have made a number of examinations in cases of peritonitis, the exudation in strangulation, both inside the abdomen and in hernia sacs, they are such that, though they may guide my ideas, I do not consider them worthy of being brought forward. It may be mentioned that my results guided me to the belief that pyogenic cocci will be found to be the great originators of perforations and gangrenes of the alimentary tract and also to the uniformity of the pathological process, acute infective necrosis, in appendicitis, perforated gastric, duodenal, and other ulcers, strangulated herniæ, &c.

THE BACTERIOLOGY OF STRANGULATED HERNIÆ.

Bundschuh[4] found bacilli present in the fluid in the sacs in 60 per cent. of cases. Apparently this was the bacillus coli communis. The observations which I was able to complete were 15 in number. Cultures were only obtained in about 33 per cent. of cases But the result seemed to depend mainly upon two factors—namely, the severity and the duration of the strangulation. The presence of the bacillus seems to make no difference in the prognosis or the primary union of the wound. Professor Welch years ago demonstrated the presence of the bacillus coli communis in surgically clean laparotomy wounds. It is therefore possible to go further than the usually enunciated dictum that "all work goes to show that this organism is not pathogenic when it is present in the normal intestine, but when the intestine is injured or the organism enters an unusual or abnormal

[3] Centralblatt für Bakteriologie und Parasitenkunde, 1889, Band v., S. 316.

[4] Beiträge zur Klinischen Chirurgie, Band xxxi., Heft 2.

situation of the body it can set up various lesions."[5] To this may now be added that it has been found in the peritoneal cavity in cases of intestinal obstruction and in the sacs of strangulated hernia without producing any obvious result from its presence. It may not have been doing harm in a number of places where it has been found. In a case of acute infective necrosis in a strangulated hernia, reported for the first time in these lectures, "cocci" were found in the cover-slip preparations as well as bacilli, but in the cultures only bacilli were found. It is therefore not clear that, unaided, the ordinary colon bacillus of our intestine does us more harm than good. In fact, I believe that it does us infinitely more good than evil and certainly is a much libelled organism. The ordinary colon bacillus has many relations, some of whom can be extremely badly behaved. It is by no means easy to make sure of the "ordinary bacillus coli communis." The dependence for the initial start of the action of the colon bacillus on the bowel wall upon "injury" alone is not so decided as has hitherto been taught. The proof of its existing without apparent harm in the tissues, as in intestinal obstruction and strangulated hernia, has been adduced. Again, by the action of the bacillus typhosus in enteric fever the mucous membrane of the bowel is injured, and though in this disease the colonies of bacillus coli communis seem, or are said actually to be, numerically increased, yet perforation and gangrene of the bowels are not so common. Yet, again, in tuberculous enteritis, perforation and gangrene are not nearly so common as would be expected if the bacillus coli communis merely needs the tissues to be "injured" in order to begin its work of havoc upon them.

"It was formerly taught that there were no micrococci in the intestines. Recently they have been demonstrated." So says a recent bacteriological text-book. And there is every reason why they should not be found in ordinary cultures, and perhaps even on cover-slip preparations, being or having been killed out by the growth of the colon bacillus. Yet I believe that we must look to pyogenic micrococci for the starting point of cases of acute perforation and gangrene—i.e., acute infective necrosis—in whatever part of the alimentary tract they may be situated.

THE RELATION TO PHAGEDÆNA, CANCRUM ORIS, &c.

With the wild ardour of youth I once set out to attempt to elucidate the bacteriology of gangrenes, phagedæna, cancrum oris, &c. The sobering effects of this attempt lie in two chief directions. Firstly, in all cases a mixture of organisms was obtained and in the process of isolation and separation of these bacteria one either lost a lot of the organisms or they in varying degrees their power of producing disease. And, secondly, I do not believe that it is possible to attribute these diseases to the result of the action of any specific organism or even organisms. These infections are of their very nature and situation "mixed" infections, and the omnipresent and ever-represented organisms in them are the pyogenic cocci—that is to say, they are pre-eminently septic infections. Bacteriology, as it now exists, offers at the best but an incomplete account, and, as has been said in a recent bacteriological text-book, "it should be borne in mind that many of the bacteria which can be obtained in coverslip preparations cannot be cultivated." And it may be added that many, even the most important, may be lost before the cover-slip preparations can be made. Otte warth[6] records a case of primary gangrene of the tonsil which proved fatal. Streptococci were alone found in the culture. In fact, streptococci and staphylococci are acknowledged to play a leading part in gangrenous dermatitis, stomatitis, tonsillitis, &c., but owing to the vigorous growth of the hardy bacillus coli communis their importance has not as yet been recognised in gastric and alimentary necroses and therefore direct proof is still wanting. It is of considerable interest and supports my suggestion, that in situations such as the tonsils whence cultures need not be crowded out by the bacillus coli communis, if it is present at all, pyogenic cocci alone or predominantly are found. This may be regarded as another item of circumstantial evidence in favour of the primary action of pyogenic cocci in the production of acute infective necrosis of the stomach, duodenum, appendix, &c.

ACUTE INFECTIVE NECROSIS IN VETERINARY WORK.

It is my desire to bring home to my hearers the value of a careful examination of the records of veterinary surgery and pathology. A most fascinating study is afforded in this way and one which will do much to aid and to extend the experimental researches. Acute infective necrosis occurs in animals in the shape of gangrene of tracts and perforations of the alimentary canal. Unfortunately, as yet, veterinary pathology is not in so advanced a state as is human pathology and the records and descriptions are consequently sometimes difficult to understand. Speaking generally, the diseases of animals are not as yet well worked out. But the future will doubtless furnish far greater stores than the somewhat meagre accounts now available.

Thrombosis of a mesenteric vein.—I found the record of one case of mesenteric thrombosis in animals described by Connochie in the *Veterinary Journal* of 1893, vol. xlvi., p. 324. The title of the paper is "Vomition in the Horse due to Mesenteric Embolism" and is very misleading. The subject was a valuable hackney filly, rising three years old, which was in good condition. For two days she was noticed to be eating sparely; on the third day she was found lying down and rolling over and over, and the fourth day she died. At the post-mortem examination an ante-mortem clot was found in the anterior mesenteric vein with resulting gangrene of the "intestines." The case in reality seemed more acute than many of those of venous thrombosis occurring in man.

Suppurative typhlitis.—A case of typhlitis such as must correspond with our appendicitis was also found and is reproduced in this section. A horse was suddenly seized with violent colic and died in "some" days. At the necropsy "a quantity of reddish serum was found in the abdominal cavity with flakes of lymph upon the intestines. On removing the cæcum there was found at the place of attachment an induration from one to two centimetres thick, and in this an abscess of the size of a 'nut' which contained grey, thick pus. Along the whole extent of the crook of the cæcum the wall of the gut was thickened. The mucous membrane was very much inflamed, deep red in colour, the epithelium came away in flakes leaving a blackish corium." The importance of this case in corresponding to appendicitis in man has been remarked on in that section of the second of these lectures, 1904.

Perforations of the stomach.—Perforated gastric ulcer in animals is a subject covered with much confusion. Acute abdominal disease in animals seems largely to consist of three kinds—namely, colic, ruptured stomach, and twisted guts. From the descriptions it is not easy always to decide upon the case as to whether the condition was inflammatory or the result of true bursting of the stomach which does occur in animals. Three genuine cases were found.

CASE 1.—(*Journal of Comparative Medicine*, 1897, vol. xviii., p. 716.) A horse died from "colic" but was found to have an irregular zigzag ulceration along the greater curvature of the stomach. There was also another ulcer near the pylorus. In the first ulcer was a perforation about one inch long which had caused peritonitis and death.

CASE 2.—(John Freeman, F.R.C.V.S., the *Veterinarian*, vol. lxxiv., 1901, p. 108.) A Scotch deerhound had been ailing for some time with wasting. At first the diagnosis was that of worms, later pernicious anæmia. Post mortem a perforated gastric ulcer of the size of a half-crown was found. The other viscera were healthy.

CASE 3.—(Mosser, *Bulletin de la Société Centrale de Médecine Vétérinaire*, Feb. 23rd, 1903.) At the post-mortem examination of a cow, from 10 to 12 ulcers were found along the greater curvature of the stomach, varying in size from that of a pea to that of a franc piece. One of these had perforated and caused peritonitis and death.

Ruptures of the stomach have been reported in far greater numbers than have true perforations and occur always along the cardiac end of the greater curvature, being sometimes as much as 18 inches long. Mr. Malcolm, F.R.C.V.S., says that it is not an infrequent occurrence and that it is due to the violent contractions of a relatively small and weak stomach which cannot relieve itself by vomiting. In a certain number of these ruptured stomachs there is evidence of previous pathological change. For instance, in the case of Littlewood, *Veterinarian*, 1894, vol. xxxiv., p. 291, the walls were thickened and softened by parasites.

Perforation of the small bowel.—Professor Penberthy in the *Journal of Comparative Pathology*, 1896, p. 25, says that in enteritis "mortification may occur in 8–10 hours." Such rapidity demands the assumption of the action of micro-organisms. Perforations of the small bowel seem more common than they are in any other situation. In the *Journal of Comparative Medicine* H. H. Dell records a case of three perforations in the ileum, associated with the

[5] Muir and Ritchie: Pathology.
[6] Deutsche Medicinische Wochenschrift, April 23rd and 30th, 1903.

presence of tænia saginata. The subject was a Gordon setter bitch. He quotes Cadeac, *Revue Vétérinaire*, 1888, as reporting a case of perforation in the duodenum of a terrier due to a "tænia." Lahoque, *Recueil Vétérinaire*, 1888, describes three perforations in the small bowel of a dog due to tænia serrata. In the *Journal of Comparative Medicine*, 1899, vol. xx., p. 379, it is reported that a seven-year-old bay mare died and at the post-mortem examination a perforation of the ileum half an inch in diameter was found and general peritonitis. The ulcer was solitary and there was no obvious cause.

Perforations of the large bowel.—Captain Martin, in the *Veterinary Journal*, 1903, N.S., vol. vii., Part 41, p. 273, gives a most interesting account of a unique case. A chestnut mare was found to have an intense inflammation of the cæcum, or typhlitis with perforation, and through that perforation a number of coils of small intestine had passed into the cæcum and become strangulated. Davis (*Veterinary Journal*, 1897, vol. xliv., p. 170) says: "The 'floating colon' was found to be greatly inflamed over a patch about eight inches long and perforated. A calculus of two and a half pounds weight was free in the abdominal cavity." Professor Dewar (*Veterinarian*) says: "A gelding, eight years old, was found post mortem to have a 'ruptured' colon ten inches in length. The walls were three to four times as thick as normal." Neyland and Leblanc (*Veterinarian*, 1896, vol. lxix., p. 48) says: "Post-mortem examination on a mare who had had 'colic.' One metre from the anus the gut was ruptured, the 'tear' being ten inches in length, and a large intestinal calculus was in the perforation."

Peritonitis in animals.—The natural thing to look into to find support for the previously recounted cases was to refer to the records of cases of peritonitis and abdominal abscess. Unfortunately, the origin of these diseases is not always known or looked for. For instance, in the *Veterinary Journal*, 1900, N.S., vol. i., p. 295, a report of a case is given from the *Berliner Thierarzt Wochenschrift* of a cow which had a large abscess in the peritoneum which discharged per rectum. There was "quite a litre of greyish-yellow, stinking, filthy pus." The sinus closed and the animal recovered. The origin of the abscess is not known, but had such an accident occurred in a young human being there would be little or no doubt that the appendix would be at the bottom of the trouble. The presence of peritonitis, unfortunately, renders the animal unfit for food and in consequence has not the importance in the veterinary world that it has with us. Brett (*Veterinarian*, 1889, vol. lxii., p. 619) says that peritonitis is not common in cattle. And he gives accounts of three cases which were diagnosed as fæcal impaction. Post mortem, two were called idiopathic peritonitis and the third was regarded as due to "cold following calving." Littlewood, in the *Veterinarian*, 1890, vol. lxiii., pp. 204-07, describes an epidemic of peritonitis which occurred among the horses of the Egyptian police reserve in which about 14 horses died from peritonitis for which no cause was demonstrated. Poisoning was excluded. All cases were acute and the only definite thing noticed was that the inflammation was mostly in the pelvis and the "double colon." Wohmuth (*Veterinarian*, 1901, vol. lxxiv., pp. 29-31) records three cases, one being due to a nail in the rumen, another to an abscess in the wall of the rumen, and the third consequent on parturition. The other records merely illustrate its occurrence after operation or parturition.

Looking through these cases veterinary surgery seems in the same state as that in which the surgery of mankind was some 20 years ago. The idiopathic peritonitis of the latter has turned out to be mainly due to the disease of the appendix which our predecessors had overlooked. It remains with the future to see if those of the animal will find a similar explanation. In discussing the pathology and physiology of the cæcal region it was shown that there was every reason to expect inflammation in this place and also the presence of lymphoid tissue. Beyond the influence of diet and position there seemed to be no particular reason why this region should be very often affected in the biped and escape in the quadruped. It is to be expected that the disease when closer attention is paid to it will be far more frequent in the latter than it appears to be. Veterinary surgeons have not as yet recognised anything of the kind. It has also been shown that the collection of lymphoid tissue in the caput coli of animals is the analogue of the appendix of man. And, therefore, it should also have some analogous diseases. It must have a somewhat similar rôle with regard to the action and growth of micro-organisms. And it will, therefore, be liable to like inflammatory changes. These have not been fully recognised, but I have brought forward a case of abscess of the wall of the cæcum, examples of localised intraperitoneal abscess near it and in the pelvis, and peritonitis limited to, and especially marked in, the same region. And it is suggested that these have an origin analogous to what they would have in man—i.e., the appendix, in the lymphoid tissue of the cæcum. Professor Clifford Allbutt once wrote to me: "I warmly welcome any attempt to get away from anthropocentric medicine, to escape from the ptolemaic phase into the cosmic." Let this sentence close the remarks that I have made upon the subject.

ON THE SURGICAL TREATMENT OF DISEASES OF THE STOMACH FROM A PHYSICIAN'S POINT OF VIEW.[1]

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THERE is no subject of greater interest to the general physician than that concerning the surgical treatment of the diseases of the stomach with which he is called upon to deal and in my opinion there is no department of the surgeon's art which has made greater strides within recent years. The comparative safety with which the stomach can be exposed and manipulated, the perfection of the technique with which the operations are carried out, and the relief which in many cases of gastric disease is afforded by surgical interference compel the physician to regard the surgery of the stomach as one of the therapeutic procedures which he must always take carefully into consideration in guiding the treatment of cases of gastric disease. The technique of the operations is, indeed, so perfect that on at least one occasion, some months after a laparotomy had been performed for cancer of the stomach, I have seen the abdomen opened on the post-mortem table without the pathologist having noticed the almost invisible cicatrix which was all that remained as evidence of the operation that had been performed. It is no wonder then that the surgeon is ready and willing to give the sufferer from organic disease of the stomach all the benefit that may be possible from the exercise of his art. This much, indeed, may be freely granted, and yet it must at the same time be admitted that the point of view of the physician in relation to this question is necessarily somewhat different from that of the surgeon. It is in the very nature of things that the physician sees more of the natural history of these diseases than the surgeon does. He sees them earlier (he is often blamed for not seeing them early enough) and he sees them later when the surgeon has done his best. The surgeon's interest perhaps tends to slacken when the wound is healed and the patient is so far restored to the *status quo ante*. It then falls to the lot of the physician to watch the slow decay of the vital powers which accompanies the natural progress of the malady and to compare the course of the comparatively few cases which can be, and have been, operated upon with the much greater number of similar cases of disease in which no operation could ever have been possible. From this I think it follows that the physician's outlook on gastric operations, excepting those undertaken for ruptured gastric ulcer, and perhaps, though not certainly, those for simple dilatation of the viscus, is scarcely likely to be so hopeful as that of his surgical brother.

My own interest in the surgical treatment of gastric disease dates from an early period of my professional career. In 1892 I published[2] a paper on the surgical treatment of gastro-intestinal cancer from the point of view of a pathologist and based upon the post-mortem examination of 26 consecutive cases. The general conclusion I then arrived at was that the radical cure of gastric cancer by surgical

[1] A paper read at a meeting of the Glasgow Northern Medical Society on Nov. 3rd, 1903.

[2] Brit. Med. Jour., April 23rd, 1892.

means must always be rare chiefly on account of the great frequency with which secondary extensions undetectable by ordinary means of examination are present, 16 out of 19 cases of gastric cancer presenting on post-mortem examination secondary nodules in the liver or other parts. As the basis of my present study of the subject I have taken the facts recorded in my ward journals since 1895. In this period of eight years I find that there have been under treatment in my wards 220 cases of stomach disease of all kinds, 80 males and 140 females. Of these cases I find that surgical operation was recommended and performed in 23 and it is on a more particular study of the records of these 23 cases (an analysis of which is given below) that I found the remarks I have to make in this paper.

Cancer, 6 males, 7 females	13 cases.
Ulcer, all females	4 ,,
Hæmatemesis, all males	2 ,,
Simple dilatation, all males	3 ,,
Stricture of the œsophagus	1 case.
Total	23 cases.

GASTRIC CANCER.

Two methods of surgical treatment suggest themselves both to the physician and the surgeon as applicable to cases of cancer of the stomach: (1) pylorectomy, the radical removal of the tumour itself; and (2) gastro-enterostomy, a palliative procedure for the relief of urgent and distressing symptoms.

1. As regards pylorectomy, I have already referred to my views of the value of this operation as based upon post-mortem room experience. After a somewhat careful consideration of a series of consecutive cases examined post mortem I came clearly to the opinion that in the present state of our diagnosis pylorectomy could seldom be undertaken with any very great prospect of success. In this opinion I found myself in agreement with Guinard. My clinical experience of the last eight years rather strongly confirms me in this opinion. In only one of the 13 cases in which I recommended operation did I advise pylorectomy as the procedure which I thought might be hopefully undertaken, and in that case, though the conditions were in every sense most favourable, the operation could not be completed on account of the highly dangerous collapse of the patient on the operating table. The man recovered from the operation well and died nearly two months later in my wards from the natural progress of his malady. In all the other cases I advised either an exploratory incision with a view to a possible radical operation or the performance of a gastro-enterostomy for the relief of urgent symptoms. At this stage it may be right to state the results of the 13 operations for gastric cancer in a tabular form:—

Pylorectomy advised but found to be impossible	1 case (recovery).
Gastro-enterostomy advised but pylorectomy performed as the conditions seemed favourable when the abdomen was opened	2 cases (both died).
Exploratory operation advised and followed by—	
(a) Gastro-enterostomy	6 cases (5 recovered).
(b) Closing of the wound as nothing could be done	4 cases (3 recovered).

When we examine this table we are struck with one thing—namely, the comparative safety with which an exploratory incision for disease of the stomach can be made. In the whole series of 13 cases there were only four in which the death could be directly attributed to the operation. I regard a death occurring within 48 hours after the operation as probably due to it. Of these four deaths two were cases of pylorectomy, one followed an enterostomy, and one followed the closing of the wound when it was found that nothing could be done. What higher tribute to the success of the surgeon's art could be paid by a physician than such a table as I have given of the results of, perhaps, about the most trying operation to which the human frame could be subjected? Why is it then that pylorectomy for gastric cancer still remains such a fatal operation? I have witnessed the performance of the operation four times and in all the patients died. I cannot answer the question. The surgeon is apt to say that he does not get the cases early enough in the course of the disease and I think there may be a great deal of truth in this statement. But I do not think that it covers the whole ground. It seems to me that the removal of a large portion of the stomach, especially when the organ is the seat of malignant disease, is accompanied by a degree of nervous shock which only a few constitutions are able to recover from. I am well aware of a number of brilliant successes, but I think they are still in the minority. As regards the question of the earliest time at which operation should be recommended I do not think that the physician can do much more than he does at present, unless, indeed, he is prepared to advise every case of chronic dyspepsia to submit to a laparotomy with a possible pylorectomy at the end of it. I for one am not yet prepared to recommend such a course. Our powers of diagnosis in the earliest stages of cancer of the stomach are not yet so perfect as to permit of this. As regards the 13 cases in which I advised operation there was no great difficulty in the diagnosis. In one what was thought to be a dilated gall bladder turned out to be cancer of the stomach and liver. With this exception the diagnosis was clear in all the others. But this leads me to say that when the diagnosis is clear—i.e., when a tumour is palpable—the time for pylorectomy or radical operation is past. Here my clinical and my pathological experience agrees. When a gastric cancer is palpable the probability of the presence of secondary extension is very great; and in addition the vitality is likely to be so much reduced that the chances of recovery from a radical operation are very slight. In all such cases while I would not be inclined to advise pylorectomy I would not refuse the patient the slight chance it might afford him if I were quite convinced that he fully appreciated all the risks.

2. I propose now to consider very shortly the operation of gastro-enterostomy or gastro-jejunostomy in the treatment of gastric cancer. From the nature of the disease this operation can only be regarded as a palliative procedure. It is an operation to be recommended in cases where there is marked obstruction of the pylorus, leading to excessive pain and vomiting. Possibly the establishment of a gastro-enteric anastomosis might be regarded as likely to retard the growth of a malignant neoplasm of the stomach by preventing the irritation of the tumour by the passage of the gastric contents over its surface, but I think the probability of such a result is too remote to justify the recommendation of the operation on this ground alone. But for purposes of palliation I would not hesitate to recommend it in all suitable cases. In a recent letter to the medical press Mr. A. E. Maylard expressed his doubts as to whether it was right to advise gastro-enterostomy in advanced cases of pyloric cancer when we know that the relief can in the very nature of things only be temporary and when it is almost certain that after a period of marked relief and improvement the patient will have to go through all the suffering and distress again before the final event. There is perhaps something to be said in favour of such an attitude, but I confess that I have not very much sympathy with it. It is, I think, the duty of the physician and the surgeon alike to afford relief from suffering and to prolong life whenever it is possible to do so and that without consideration of ulterior and it may be inevitable results. Of course, it should always be made clear to the patient that the procedure to be adopted is merely a temporary and palliative one.

In our series of 13 cases gastro-enterostomy was performed five times and enterostomy (jejunal fistula) once. In all of these cases—except that of enterostomy, in which the patient died soon after the operation—the relief afforded was most marked and the patients survived the operation for a period of from three weeks to three months, some of them being readmitted to my wards upon the complete healing of the surgical wound. Under the limitations indicated above there can be no doubt that gastro-enterostomy is a most valuable and justifiable procedure in gastric cancer and that the earlier it is performed—even before, it may be, marked emaciation and obstruction have taken place—the more successful is it likely to be. As regards the four remaining cases in which merely an exploratory operation was possible nothing more need be said. One of the patients died as the result of the operation, the others recovered from it and in the course of time succumbed to the disease.

In concluding this portion of my paper I may give a statement of the proportion of cases operated upon to the total number of cases of gastric cancer observed in the period dealt with. The total number of cases of cancer of the stomach treated was 39—viz., 23 males and 16 females. The total number of operations was 13—viz., 6 males and 7 females—i.e., operation was performed in 30 per cent. of

the cases treated. In a number of other cases operation was offered but was refused by the patient after a full statement of all the possibilities had been made. The following summaries of these 13 cases are given in chronological order, the male cases first and the female cases second.

Epitome of Cases of Gastric Cancer.

CASE 1.—The patient, a blind man, aged 62 years, was admitted to Ward 7 of the Glasgow Royal Infirmary on Oct. 5th, 1895, complaining of loss of flesh, weakness, and anorexia of six months', and of hiccough and eructation of two months' duration. There was a nodular freely moveable mass palpable in the epigastrium which was decided to be pyloric in situation. No free hydrochloric acid was detected in the gastric contents. Laparotomy was performed on Oct. 25th, but pylorectomy was not proceeded with on account of dangerous collapse. The patient was readmitted, quite recovered from the operation, on Nov. 19th, 1895, and died on Dec. 16th from exhaustion. A post-mortem examination revealed great narrowing and thickening of the pylorus from an epithelioma. No secondary nodules were present. The patient's blindness, which had been present from early youth, was found to be due to quiescent myxomatous tumour in the left lobe of the cerebellum.

CASE 2.—The patient, a man, aged 54 years, was admitted to Ward 7 on March 18th, 1898, on account of pain and vomiting after food of 14 days' duration. His stomach had troubled him since August, 1896, when he had a sudden hæmatemesis. Constipation was troublesome. Cachexia and emaciation were marked. A nodulated palpable tumour could be felt which was judged to be in the greater curvature of the stomach. The patient was transferred to a surgical ward on April 6th. Laparotomy was performed, but the mass could not be removed, nor could gastro-enterostomy be performed. The man recovered from the operation.

CASE 3.—The patient, a man, aged 48 years, was admitted to Ward 7 on April 21st, 1900, on account of vomiting, weakness, and loss of flesh of two months' duration; everything, even water, was vomited. Certainly he was well and strong three months before admission but had been liable to "water-brash" all his life and for some years had suffered from morning vomiting. There was a lump in the epigastrium which was discovered accidentally shortly before admission. The tumour was freely palpable but not painful and might be situated either in the left lobe of the liver or in the pylorus. There was no vomiting after admission but pain was troublesome in the left hypochondrium. The heart and lungs were normal. Slight albuminuria was present. On April 26th the tumour was diagnosed as gastric in situation. Operation was performed on May 18th. A tumour was found in the left lobe of the liver and another in the posterior wall of the stomach, the latter probably being primary. The wound was closed. The patient was readmitted on June 19th. The wound was perfectly cicatrised and the nodule was still palpable in the epigastrium. The patient died on Sept. 11th from asthenia. A post-mortem examination revealed a large columnar-celled epithelioma of the stomach with secondary nodules in the liver, portal glands, and mediastinal glands.

CASE 4.—The patient, a man, aged 34 years, was admitted to Ward 7 on Jan. 24th, 1902, on account of dull epigastric pain of six weeks' duration in consequence of which he had had to lie up three weeks before admission. Pain was not related to taking of food and was not accompanied by vomiting. Constipation was troublesome. The tongue was flabby, indented, and tremulous. On palpation there was fulness in the epigastrium, which was very tender, but no palpable tumour could be made out or succussion. The diagnosis oscillated between disease of the pylorus and disease of the gall-bladder. The heart was normal. Slight albuminuria was present. Operation (performed on Feb 12th) revealed a large malignant tumour in the anterior wall of the stomach with secondary nodules in the liver. The wound was closed. He was readmitted, with the wound healed, on Feb. 25th, and was dismissed to his home at his own request on the 28th.

CASE 5.—The patient, a man, aged 47 years, was admitted to Ward 7 on Jan. 16th, 1903, on account of severe pain in the epigastrium, frequent coffee-ground vomiting, and great emaciation (he lost almost three stones in five months), and a mass, obviously pyloric, in the epigastrium. He had been ill for 12 months in all. There was no free hydrochloric acid in the gastric contents. The red blood corpuscles numbered 3,500,000 per cubic millimetre. He was transferred to the surgical ward on Feb. 4th and a gastro-enterostomy was performed with great relief to the gastric pain and marked improvement of his general condition. He was dismissed to his home on April 13th with failing strength and œdema of the lower limbs.

CASE 6.—The patient, a man, aged 55 years, was admitted to hospital on July 31st, 1903, on account of pain after food and vomiting of a year's duration. Distinct dilatation of the stomach was present which was treated by lavage, but there was no palpable tumour. No free hydrochloric acid was present. A brother had died from gastric cancer. The patient was transferred to the surgical ward on Sept. 23rd and laparotomy was performed. Diffuse cancerous infiltration of the stomach wall was found. Death ensued in two days.

CASE 7.—The patient, a married woman, aged 40 years, was admitted to Ward 8 on Sept. 3rd, 1898, on account of vomiting and pain in the stomach and of rapidly advancing emaciation of about eight months' duration. She was transferred on Sept. 7th to the surgical ward on account of the constant vomiting. The occurrence of the vomiting immediately after ingestion suggested obstruction near the cardiac end and passage of bougies confirmed this. On the 10th laparotomy was performed and a large tumour was discovered in the stomach. Enterostomy was performed and a duodenal fistula was established. Death ensued within 48 hours. Post mortem examination revealed a large cancerous tumour of the body of the stomach ulcerating into the liver and into the small sac of the omentum.

CASE 8.—The patient, a married woman, aged 27 years, was admitted to Ward 8 on Nov. 23rd, 1898, on account of pain after food and a swelling in the epigastrium. The epigastric tumour was first noticed after a severe attack of pain in the stomach on Nov. 17th, and the history was not that characteristic of gastric cancer. On April 22nd, 1898, she had been admitted on account of chronic gastric catarrh with doubtful evidence of ulceration in the form of an obscure history of coffee-ground vomiting. She remained well till August, 1898, when another attack of pain and vomiting occurred, the vomited matter being brown in colour and in quantity about a cupful. She had similar attacks in the middle of August and in October. Since then she had suffered from constipation and a tendency to melæna. She was transferred to the surgical ward on Nov. 27th, with the view that the epigastric tumour might possibly be an abscess connected with an ulcer of the stomach. On the 29th laparotomy was performed, when a large cancerous tumour involving the pylorus with widespread implication of the neighbouring glands was discovered. Removal was impossible but gastro-enterostomy was performed. She recovered well from the operation and had temporary relief from her pain.

CASE 9.—The patient, a married woman, aged 54 years, was admitted on Sept. 9th, 1899, to Ward 8 on account of progressive weakness and emaciation of a year's duration and of very constant vomiting after food of six or eight months' duration. A large, very hard, painless, freely moveable, and nodulated tumour (first noticed by the patient in the previous March), evidently involving the pylorus and the greater curvature of the stomach, was easily palpable. For the relief of the vomiting she was transferred to the surgical ward on Sept. 19th, where gastro-enterostomy was performed, with immediate relief of the vomiting. The patient died from asthenia on Oct. 11th and a post mortem examination held on the 13th revealed a perfectly formed artificial pylorus, as well as a large epithelioma of the pylorus, extending towards the cardiac end and also towards the opening into the jejunum. Secondary tumours were found in the left lung and pleura but none in the liver.

CASE 10.—The patient, a married woman, aged 55 years, was admitted on Sept. 27th, 1901, to Ward 8, on account of vomiting of food occasionally for four years and of loss of flesh of one month's duration. A hard mass, evidently pyloric in situation, could be felt in the epigastrium and striking gastric peristalsis was visible. Vomiting and constipation had persisted for four years. Two years previously an attack of severe pain in the stomach had occurred, followed on the next day by hæmatemesis (coffee ground) and tarry motions; ulcer was then diagnosed. The hæmatemesis was not repeated but for two years she had vomited two or three times a week, the ejecta appearing to be greater

than the ingesta. Emaciation only began a month before admission but for four months she had suffered from an uneasy "rumbling" in the stomach. She was transferred to the surgical ward on Oct. 1st for gastro-enterostomy but pylorectomy was performed as conditions seemed favourable when the abdomen was opened. The patient died the same day.

CASE 11.—The patient, a married woman, aged 57 years, was admitted on April 11th, 1902, and was transferred to the surgical ward on the 23rd. Pylorectomy was performed a few days later and death occurred on the same day. The following is a clinical summary of the case. "Tumour of the pylorus with considerable dilatation of the stomach. Palpable mobile tumour and visible gastric peristalsis. Duration of at least a year since a sudden attack of faintness and melæna in May, 1901; condition much worse the last four months, during which she had frequent vomiting attacks. Vomitus like that of gastric dilatation, with a minute trace of free hydrochloric acid but no free lactic acid. Bowels constipated but respond to aperients. Liver apparently free, though right extremity of the tumour may be adherent to its under surface. Very free mobility of the tumour as a whole." On April 15th I concluded a long clinical note in the ward journal with the following sentence: "Pyloric obstruction, though great, is not complete, and emaciation, though considerable, is not extremely advanced. Pylorectomy does not seem from the medical aspect to be indicated but gastro-enterostomy certainly promises considerable relief." On opening the abdomen the conditions for a radical operation seemed so favourable that pylorectomy was performed.

CASE 12.—The patient, a married woman, aged 42 years, was admitted to Ward 8 on Nov. 4th, 1902, on account of vomiting, constipation, emaciation, and a "lump" in the epigastrium associated with visible peristalsis. No hæmatemesis was present. The stomach symptoms had been troublesome for 15 years and were greatly aggravated since the previous January. In August she was seen in consultation and gastro-enterostomy was advised. On Nov. 7th no free hydrochloric acid was discovered in the gastric contents. Gastro enterostomy was successfully performed on the 15th. The patient died at home on Dec. 29th.

CASE 13.—The patient, a married woman, aged 44 years, was admitted to Ward 8 on Nov. 17th, 1902, on account of stomach symptoms which were observed for the first time in June, 1902. She had been in residence in the preceding May for acute rheumatism and systolic murmur at the apex, when certainly no stomach symptoms were complained of. Since then she had been liable to vomiting every three or four days and emaciation had begun. On admission a large, palpable, freely moveable nodule was presented in the epigastrium with marked visible peristalsis. No free hydrochloric acid or lactic acid was detected in the gastric contents. The liver was not enlarged. The patient was transferred to a surgical ward on Nov. 25th. Gastro-enterostomy was performed on the 29th and she was dismissed on Jan. 16th, 1903, feeling well and having gained in weight. She died from asthenia a short time afterwards on Feb. 24th. Post-mortem examination revealed a pyloric cancer undergoing colloid change with numerous secondary peritoneal nodules. The local results of the operation were perfect.

RUPTURED GASTRIC ULCER.

Of the great value of early operation in cases of ruptured gastric ulcer as a means of saving life there can be no doubt whatever and this can with the greatest certainty be affirmed in spite of the extremely fatal results in the four cases operated upon in the present series of cases. Three of the four patients died shortly after the operation was performed. The fourth made a very good recovery but in this case no ulcer was discovered at the operation. When we consider the large number of cases of disease of the stomach of all kinds (220) treated in the medical wards under my care during the period at present under review it must be admitted that four cases presenting symptoms of a ruptured ulcer constitute a relatively small proportion. It must be remembered, however, that under present conditions cases of ruptured gastric ulcer are on the whole more likely to make their way directly into the surgical wards and so are not so liable to come under the observation of the hospital physician in the first instance. I propose now to give a short summary of the four cases in which operation was recommended and undertaken for the relief of ruptured gastric ulcer.

Epitome of Cases of Ruptured Gastric Ulcer.

CASE 1.—The patient, a female, aged 18 years, was admitted under my care on Nov. 24th, 1902, complaining of gastric pain, vomiting, and headache of three weeks' duration. The pain was localised, stabbing in character, but did not penetrate to the back. It had been continuous for three weeks and was always aggravated by food, even strict milk diet. Vomiting occurred about one hour after food and gave little or no relief. There was no history of hæmatemesis. On admission she was emaciated and slightly anæmic. Examination of the abdomen revealed distinct tenderness in a small area midway between the xiphoid and the umbilicus. There was no sign of dilatation of the stomach. The vertical diameter of the hepatic dulness measured two and a half inches in the mid-clavicular and three inches in the mid-axillary line. She was kept in bed and small quantities of milk were administered frequently. At 8 P.M. on the 27th she complained of an acute epigastric pain going through to her back. The onset was sudden and a few minutes later she vomited three ounces of curdled milk with several bright red blood-clots in it. The abdomen on inspection appeared to be normal. Sharp epigastric tenderness was elicited and there was also slight tenderness in the right hypochondriac and right lumbar regions. The liver dulness was normal. The temperature was 98° F. and the pulse was 60 per minute, regular, and of good tension; the respirations were normal. Under the influence of heat the pain disappeared in the course of 40 minutes and she had a good night. At 8.30 A.M. on the 28th the epigastric pain again became so severe that the patient was forced to cry out. When seen at 9 A.M. her face was pale and her expression was anxious. On inspection the abdomen seemed to be normal and abdominal respiration was present. Epigastric tenderness was very acute and the anterior abdominal wall was slightly rigid. At this examination the area of liver dulness was found to be almost absent, only a narrow band about half an inch in vertical diameter remaining. The temperature had fallen to 96·6°; the pulse was 112, small, but of fair tension; and the respirations were 28 per minute. After consultation with Dr. W. K. Hunter I requested my colleague Mr. J. Hogarth Pringle to see the patient and after further consultation it was determined that as the case was probably one of perforation of the stomach by a gastric ulcer laparotomy should be performed at once. On opening the abdomen there was no sign of peritonitis. The stomach was normal in size and position and no abnormality was noted in its wall. The colon was distinctly contracted and appeared about one inch in diameter. After the operation the patient made good progress for three weeks and then for a few days slight hæmatemesis recurred. At the end of another three weeks she was dismissed well, the area of liver dulness at this time being much diminished. As she did not return to report herself she has not been again examined.

CASE 2.—The patient, a married woman, an Italian, aged 28 years, was admitted to Ward 8 on April 25th, 1902. As neither the patient nor her friends could speak English no accurate clinical history could be obtained. I saw her on the morning of April 26th and found her dangerously ill. The physical signs indicated that she was suffering from acute peritonitis limited to the epigastric, upper umbilical, and right lumbar regions. In this area of the abdomen visible bulging was present and there was slight œdema of the skin over the lower sternal and right costal margins. On palpation a distinct resistance and an ill-defined infiltration were found occupying the area just mentioned. Percussion over the distended area was distinctly dull and there was tenderness on palpation, most marked just above and slightly to the right of the umbilicus. The pulse was small, thready, and regular, numbering 130; the tongue was dry and coated with a brown fur; the stomach was very irritable and there was constant bilious vomiting. As I thought the symptoms were probably due to a ruptured gastric ulcer she was removed at once to the surgical ward and laparotomy was performed. No gastric ulcer or localised abscess could be found. The liver was very greatly enlarged and apparently fatty. The patient died five hours later and no post-mortem examination could be obtained.

CASE 3.—The patient, a female, aged 21 years, single, was admitted to Ward 8 under the care of my *chef de clinique* Dr. Hunter during my absence on holiday on August 4th, 1901; she was transferred to the surgical ward on the same day and died at 7 P.M. She was admitted to

the ward at 3 A.M., complaining of pain in the abdomen of eight hours' duration. For two months before this she had been complaining of pain in the stomach setting in from half an hour to an hour after food but there had been no vomiting before the day of admission. On the day before admission, about 7 P.M., she was suddenly seized with severe pain in the abdomen, accompanied by pale lividity of the countenance. A medical man who was called ordered fomentations. He was summoned again and found her doubled up with pain, the knees being drawn up on the abdomen. He ordered her removal to the infirmary. At the time of admission she was on the whole better; the pulse numbered 100 and was small, the temperature was 99° F., and she vomited a little bile only on one occasion. Dr. Hunter saw her at 12 noon on the 4th and advised immediate operation. On opening the abdomen bile-stained fluid was found in the peritoneal cavity as well as a perforation in the stomach wall large enough to admit a goose-quill and situated on the anterior surface one and a half inches above the great curvature and slightly to the left of the middle line. The rupture was sutured. A post-mortem examination verified the state of matters found on operation.

CASE 4.—The patient, a female, aged 25 years, single, was admitted to Ward 8 on Sept. 6th, 1900, under the care of Dr. Hunter, and transferred to the surgical ward for operation on the 7th. She had suffered from dyspepsia for eight years and had been under treatment before admission since Sept. 4th for peritonitis. On opening the abdomen a ruptured ulcer and a localised peritonitis were discovered. The post mortem summary was in the the following terms: "Gastric ulcer; rupture of stomach: ulcer sutured."

The foregoing list, unsuccessful as the cases were, is not without important lessons. In the surgical treatment of ruptured gastric ulcer time is a factor of the very highest moment. The earlier a rupture is recognised and operation undertaken the better the results of the operation are likely to be. In this connexion I may refer to two cases which I recorded in the *Glasgow Medical Journal* in 1899 and in which the precise time from the occurrence of the perforation to the development of a fatal general peritonitis could be estimated with probable accuracy. In one, a case of duodenal ulcer, death occurred 21 hours, and in the other, a case of gastric ulcer, 25 hours after the occurrence of perforation. In neither case was an operation performed. In both the actual time of perforation could be accurately fixed and in both a most intense general peritonitis, with escape of the gastric contents into the cavity of the peritoneum, was discovered on post-mortem examination. Of course the situation of the perforation varies in different cases. In some the perforation may be so situated that only a localised peritonitis with subsequent abscess formation may result. In others the rupture may lead to the escape of the contents of the stomach directly into the cavity of the peritoneum, as in the two cases to which I have just referred. In the former class of case we may perhaps, and sometimes possibly with advantage, be able to wait and watch before resorting to surgical interference; but in the latter class we must advise operation at the very earliest moment if we are to have any chance of saving the life of the patient. In either class of case, however, the clinical skill and acumen of the physician will be taxed to the uttermost.

Before concluding this section of my paper I should like briefly to refer to two methods of diagnosis which have been much practised in dealing with cases of ruptured gastric ulcer. *First, with regard to the area of hepatic dulness*, it has been pointed out by a number of observers that in many cases of rupture of the stomach the area of hepatic dulness rapidly disappears. In the first of our list of cases the hepatic area was found to be greatly diminished in size and this formed one of the factors which led to our advising an operation. As we have seen, no ulcer was found in the case and the patient recovered well. Personally I do not think that we can place much reliance upon this physical sign and I would refer you to a communication by my former house physician, Dr. W. G. Rodger, in which he gives the results of his investigations on this matter in six cases, five of which were from my wards and one from the wards of my colleague, Dr. J. W. Allan.[3] *Secondly, with regard to leucocytosis*, I am inclined to think that the development of a rapid leucocytosis would be a valuable indication in our efforts at diagnosis and I think a blood count should be made in all cases. The leucocytosis may not indicate a general peritonitis but its presence would probably point to pus formation and so it may be a valuable guide as to whether operation should be undertaken or not. In one of the cases reported by Dr. Rodger where there was a duodenal ulcer perforating the pancreas but without causing peritonitis the leucocyte count rose from 5250 at 2 A.M. to 25,600 per cubic millimetre at 9 A.M.

[3] THE LANCET, July 11th, 1903, p. 98.

HÆMATEMESIS.

There is perhaps no affection of the stomach the treatment of which causes the physician more anxiety than that which is accompanied by copious vomiting of blood. Hæmatemesis due to gastric disease may be of two kinds: it may be due (1) to a more or less continuous oozing from a simple or malignant ulcerated surface, in which case the vomited matter is usually of the "coffee-ground" character, or it may be caused (2) by the perforation of a comparatively large branch of one of the gastric arteries, in which case the blood vomited may be quite fluid or in the form of bright red clots. (With the copious hæmorrhage which sometimes complicates hepatic cirrhosis or is caused by varix of the œsophagus we are not at present concerned.) In cases of hæmatemesis due to arterial perforation copious tarry motions are common and in some almost as much blood may pass down into the intestine as is evacuated by the mouth. Such severe hæmorrhage may occur during the progress of a simple perforating ulcer or more rarely as the result of a "pore-like" erosion of the wall of one of the larger branches of the gastric arteries (exulceratio simplex of Dieulafoy[4]) without any marked ulceration of the surrounding mucous membrane and at most accompanied by an abrasion so slight in area and degree that the lesion might readily enough be overlooked even at the necropsy. Very severe hæmorrhages occurring in the course of Cruveilhier's perforating ulcer are not infrequently quite recovered from under ordinary medicinal treatment but the chance of recovery in a well-marked case of "pore-like" erosion of the gastric arteries is, I should think, very slight unless, indeed, the surgeon can ligature the bleeding point. Fenwick divides hæmorrhage from chronic ulcer of the stomach into three varieties: (1) slight hæmorrhage; (2) moderate hæmorrhage; and (3) excessive hæmorrhage (l'hémorragie foudroyante). Now in cases of "pore-like" erosion the bleeding is usually of the "foudroyante" variety and this variety of bleeding, according to the same authority, is rare, being only observed in 3·4 per cent. of the cases examined.[5] In some of such cases the source of the hæmorrhage may be, and I think probably has been, overlooked even on the post-mortem table and the bleeding has been erroneously ascribed to congestion and diapedesis. I have met with two such cases, confirmed by necropsy, which I have already published.[6] In one of the cases the hæmorrhage might be described as severe if not excessive and in the other as "foudroyante." The first died exhausted from a diarrhœa which set in after the hæmorrhage had been arrested and the second died on the fourth day of residence, during which he had vomited 96 ounces of blood in addition to profuse tarry motions, and exclusive of a profuse hæmatemesis before admission which had caused him to fall fainting in the street, and which an ambulance attendant who picked him up and brought him to the infirmary estimated at from two to three pints. In this case I asked my colleague Mr. J. Hogarth Pringle to open the stomach after all available medicinal means had failed but he was unable to find the source of the bleeding.

In "pore like" erosion of the gastric arteries an important point in the diagnosis is the absolute suddenness with which in many cases the hæmorrhage sets in, and often without any previous history of gastric disorder. In one of the two cases noted above the attack came on in the midst of apparent health, and in the other the longest clinical history of stomach symptoms that could be obtained was one of four weeks. I believe, however, that I have seen a third case which was more striking than either of these two but in which the diagnosis could not be confirmed by post-mortem examination. The patient was a robust stout man of middle age, whom I saw on May 1st, 1901, in consultation with his

[4] Manuel de Pathologie Interne, thirteenth edition, tome II., p. 281. Paris, 1901.

[5] Ulcer of the Stomach and Duodenum, London, 1900, p. 195.

[6] Transactions of the Medico-Chirurgical Society of Glasgow, vol. II. p. 238, 1900; also Glasgow Medical Journal, 1899.

medical man, Dr. J. N. Glaister of Glasgow. On the morning of that day in the midst of good health and the active discharge of his daily duties, and without any clinical history of previous gastric disturbance except an occasional attack of dyspepsia, he was suddenly seized after a hearty breakfast with a profuse hæmatemesis. This had continued all day in spite of careful treatment and I was called to see him at midnight. I found him exsanguine and collapsed, and with a bowlful of bright red blood at his bedside which he had just vomited. Nothing further could be done and he died early the next day. I have no doubt in my own mind that this was a case of "pore-like" erosion or "exulceratio simplex" of Dieulafoy.

Now, in all cases of severe hæmatemesis due to organic disease of the stomach, whether caused by simple ulcer or by "pore-like" erosion, I am of opinion that the propriety of calling in surgical help should from the first be carefully considered by the physician, particularly if profuse bleeding is repeated at short intervals and the life of the patient is threatened from collapse. In cases where there is a clear history of chronic ulcer I think medical treatment may be pursued for a time with fair prospects of success in many even severe cases, but in cases of "pore-like" erosion where the "foudroyante" type of bleeding starts with appalling suddenness the sooner the surgeon is called the better. Dieulafoy has recorded one brilliant success, the life of a patient threatened by profuse hæmorrhage from "exulceratio simplex" being saved by immediate operation; and such records are always encouraging. In severe hæmorrhage from simple ulcer the operation should be easier as the site of the ulcer would serve as a guide to the bleeding point, but in "pore-like" erosion it may be exceedingly difficult to find the bleeding point after the stomach is opened. Nevertheless, the attempt should be made. In the case of ulcer, too, the presence of deep-seated adhesions or the situation of the ulcer may give rise to difficulties not easy to overcome. In spite of it all, however, our only hope in many of these cases is in the surgeon.

Epitome of Cases of Hæmatemesis.

CASE 1. *Severe hæmatemesis from a simple ulcer of the stomach, in which the stomach was opened and the edges of the ulcer were brought together by sutures.*—The patient was a man, aged 46 years, who had been suffering from anorexia, pain after food, and frequent vomiting for five months before admission. He had had three separate attacks of severe hæmatemesis—the first in July, 1899, the third on Oct. 1st of the same year, the day before his admission to the infirmary. He was very weak and greatly emaciated. As he was very willing to have something done which might prevent the recurrence of the bleeding he was transferred to the surgical ward on Oct. 5th. I was of opinion that the bleeding was from an ulcer and not from a "pore-like" erosion. After his transference the bleeding ceased and nothing was done. On the 15th it recurred with great severity. I saw him in the evening in consultation with Mr. James Luke, who was acting for my colleague Mr. Pringle and we agreed that operation should be performed at once. A simple ulcer was found, the wall at the site of the ulcer being adherent to the liver; its edges were brought together by sutures after the surface had been scraped by a Volkmann's spoon. The patient recovered from the chloroform but died a few hours afterwards from exhaustion.

CASE 2.—This was a case of profuse hæmatemesis due to "pore-like" erosion of a branch of the left gastro-epiploic artery. Laparotomy and exploration of the interior of the stomach were performed by Mr. Pringle. 96 ounces of blood were vomited during four days' residence. Profuse tarry motions were passed. Death occurred one and a half hours after operation. This case has been sufficiently referred to above and has already been published in detail.[†]

DILATATION OF THE STOMACH.

There is, perhaps, no affection of the stomach which in well-selected cases may be more successfully treated by the surgeon than that of simple dilatation of the organ. I mean by this dilatation which is produced by other causes than by malignant disease. As we have already seen, even in dilatation due to malignant disease, the operation of gastro-enterostomy may afford great temporary relief from severe suffering, but in the affections with which I am now dealing, we may, in certain cases, hope for much more permanent benefit if not for absolute cure.

Simple dilatation of the stomach may arise, I think, in several different ways. It may be caused by the cicatricial contraction of the pylorus arising from the healing of a simple ulcer at or in the immediate neighbourhood of the orifice. It may be caused by peritoneal adhesions binding the pylorus to the under surface of the liver in the region of the gall-bladder. Or it may arise from an atonic relaxation of the coats of the stomach the result of chronic catarrh due to long continued errors of diet and overloading of the viscus. In such cases there may be no actual narrowing of the pylorus itself. In a few cases the dilatation may be due to what can only be regarded as a congenital narrowing of the pyloric opening. Now in all such cases when medical treatment has been fairly tried and has failed, we may with the greatest confidence appeal to the surgeon for help. It is always right that medical and dietetic treatment should be given a thorough trial before resorting to operation, because it must be admitted that in a certain number of cases, more especially those which are of the atonic variety and due to errors of diet, a cure may be effected by such treatment. A cure by medical means must always be preferable, for, however successful the operation, there must ever be the risk of a cicatrix yielding and giving rise to hernia, or of obstructive complications arising from the dislocation of normal relationships which is necessarily involved in any surgical procedure. There is also, I think, some danger of the artificial opening contracting somewhat in the course of time, but this is not so likely to happen in cases where there is a decided stenosis of the pylorus. There can be little doubt that gastro enterostomy is the operation to be preferred in all such cases, and when medicine has entirely failed surgery must be resorted to. My experience of this method of treatment is limited to four cases, three in hospital and one in private practice, and in all the results were most satisfactory.

Epitome of Cases of Dilatation of the Stomach.

CASE 1.—The patient, a man, aged 30 years, was admitted to Ward 7 for the first time on May 22nd, 1899, and was dismissed very greatly improved about two months later, on July 25th. On admission he was suffering from dilatation of the stomach and hæmorrhage into its cavity and into the intestinal canal. Except for well-marked Hippocratic succussion and a slight enlargement of the left lobe of the liver physical examination gave negative results. The washings of the stomach contained altered blood and anæmia was very profound. On May 29th the hæmoglobin was 20 per cent. and red blood corpuscles numbered 1,380,000 per cubic millimetre. The evening temperature often reached 101° or 102° F. The heart and lungs were normal. The illness dated from Jan. 1st, and was characterised by pain in the epigastrium and beneath the left shoulder after food, by frequent vomiting, and by progressive weakness, so that he had been quite unable to work since March. He was treated by rest, rectal feeding, and lavage of the stomach. At the time of dismissal he was very well. The hæmoglobin was 60 per cent. and the red blood corpuscles numbered 4,560,000 per cubic millimetre. The patient was readmitted to Ward 12 on May 6th, 1901, and transferred to the surgical ward on June 10th when gastro-enterostomy was performed on the 13th by Mr. Pringle. After his previous residence he had remained very well till March, 1901 when as the result of a chill his gastric symptoms again became very urgent. Succussion revealed very great dilatation and constipation was extreme. The operation was very successful. He made an uninterrupted recovery and left the infirmary on August 2nd, 1901, quite well. Several attempts have been made to find him at various addresses since then but have failed.

CASE 2.—The patient, a man, aged 40 years, was admitted to Ward 7 for the first time on Dec. 22nd, 1900, and dismissed, on account of family reasons, on Jan. 5th, 1901, greatly improved. On this occasion he was suffering from subacute gastric catarrh with considerable dilatation of the stomach, the symptoms having been present for about 13 weeks and consisting chiefly of pain in the epigastrium followed by vomiting. Except for moderate dilatation no evidence of serious organic disease could be detected. The heart and lungs were normal and the urine, at first slightly albuminous, soon presented healthy characters. The patient was readmitted on April 28th, 1902, with all the signs and symptoms of great atonic dilatation of the stomach. No

[†] Transactions of the Medico-Chirurgical Society of Glasgow, 1900, vol. ii., p. 242; also Author's Lectures on Clinical Medicine, Glasgow, 1900, p. 180.

tumour could be detected and there was no specially painful area. He was transferred to the surgical ward on May 19th and the operation of gastro-enterostomy was successfully performed by Mr. Pringle. The following letter from his medical attendant (Dr. J. W. Little of Newmains) shows his condition at the present time: "I have been asked by Mr. —— to reply to your letter of Feb. 9th and state that he has enjoyed quite exceptional health since the operation, never having missed his daily work since, nor has he had any stomach symptoms and can take all kinds of food with impunity. He also intends to visit you at the infirmary on Saturday between 9 and 11 o'clock." I saw the patient on Feb. 13th, 1904, and found him in all respects perfectly well and the cicatrix firm and strong.

CASE 3.—The patient, a man, aged 40 years, a miner, was recently readmitted for the second time to Ward 7 on Dec. 12th, 1903, on account of vomiting after food and general nervous debility. He was dismissed towards the end of January, 1904, having maintained fair health and a good appetite, except for a few days when he had some vomiting. The following summary of the rather extensive clinical notes is all that need be given here. Gastro-enterostomy was performed in June, 1902, on account of dilatation of the stomach, associated with vomiting, nervousness, and debility of at least three years' duration. He had been in previous residence from Jan. 27th to March 18th, 1899. He was then suffering chiefly from catarrh of the stomach. After leaving the hospital he was treated as an out-patient of the wards for stomach symptoms, with gradually advancing dilatation, till June, 1902, when he was readmitted for the purpose of having gastro-enterostomy performed. Since then, although enjoying fair health on the whole, he has been liable to occasional attacks of vomiting, the last severe attack having occurred in November, 1903. The result in this case has not been so good as in the other two cases, but this may partly be accounted for by the fact that his nervous system has been weakened by a severe crushing accident six or seven years ago which has permanently crippled his right leg and prevented him following his ordinary occupation.

The last of the 23 operations on the stomach which have formed the basis of this paper—viz., gastrostomy for cancerous stricture of the œsophagus—need not be considered in detail, as the disease does not involve the stomach and so hardly comes within the scope of my present subject.

In what has gone before I think I have clearly shown that, with careful selection, there are many affections of the stomach which may be most beneficially and successfully treated by surgical operation. As regards malignant disease I fear that in the meantime at least the results of surgical interference will be mainly palliative. In cases of ruptured ulcer, of excessive hæmatemesis and of dilatation we may in many cases confidently expect, not only the immediate saving of life, but a permanent cure of the malady as the result of operation. To my surgical colleagues, Mr. J. Hogarth Pringle, F.R.C.S. Eng., by whom the majority of the operations here recorded were performed, and Mr. Luke, who acted in his chief's absence, I must, in conclusion, express my gratitude, not only for the great skill which they displayed in the performance of these delicate and difficult surgical procedures, but also for the invaluable help which they so readily afforded me in the preceding study and examination of the cases for purposes of diagnosis.

Glasgow.

FIVE CASES OF CARCINOMA OF THE MALE BREAST.

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CANCER of the male breast is so rare a disease that there is no necessity to offer an excuse for recording the following cases. Over 14 years ago Roger Williams[1] published a paper on 100 cases of cancer of the male breast and since then only a few isolated cases have from time to time been recorded. Thus Shattock[2] described one in a man, aged 57 years, who had noticed a growth in the breast for three years. This patient also had a yellowish discharge from the nipple. Microscopically the tumour was a duct carcinoma. This case is of especial interest as duct carcinoma occurring in the male breast is exceedingly rare. Wagstaffe[3] quotes a case of a man, aged 61 years, who had carcinoma of both breasts and published a report of 20 cases which were observed between 1857 and 1875. Lunn[4] recorded a most interesting example occurring in a man, aged 91 years, who had suffered pain in the left breast for ten months before admission into the Marylebone Infirmary. For three months a lump had been noticed in the axilla. A fungating growth was present in the left breast involving the nipple and an area of one inch around the nipple. The growth was moveable on the deeper parts but a gland was felt in the axilla. The breast and the glands were removed but the patient died a few days afterwards from hypostatic congestion of the lungs. The growth was reported to be a duct carcinoma, notwithstanding the presence of the glands in the axilla. This patient is said to be the oldest on record suffering from cancer of the breast. Warfield[5] collected 37 cases which occurred between 1890 and 1901 but this includes some of those already recorded. W. Blair Bell[6] has recently published a case of a man, aged 56 years, who four and a half years previously noticed a small, hard lump, of the size of a pea, in the right breast. This gradually increased in size and two and a half years after the tumour was first noticed it began to ulcerate. There was never any discharge from the nipple. The right breast presented an ulcer, four inches by three inches, the edges of which were hard, raised, and everted. There was a foul discharge and the ulcer bled easily. No glands were felt. The breast and the underlying fascia and muscle were removed as well as glands which were found in the axilla. The growth recurred 15 months after the operation in the skin above the scar; a deposit was also felt on the fifth left rib. Both of these were removed but the patient died one year and nine months after the first operation.

The Museum of the Royal College of Surgeons of England contains six specimens of cancer of the male breast; in five in which the age and the duration of the growth are stated the average is 57 and four and a half years respectively. The Museum of St. George's Hospital contains five specimens, in two of which the histories of the patients are given. In the first of these the growth was removed from a man, aged 58 years, who noticed a small lump in the right breast four years previously to admission to the hospital. A slight bloody discharge from the nipple had also been observed. Since then the growth had slowly but steadily increased in size and occasionally had been painful. On examination a hard nodular tumour of the size of an orange was felt close to the nipple; it was adherent to the skin but freely moveable on the deeper parts. The skin was discoloured and the nipple was retracted; a gland could be felt in the axilla. The breast was removed. It was reported that the patient's father had died at the age of 80 years from the same complaint, the tumour having existed for 13 years. The second specimen was removed from a man, aged 64 years, who had perceived a swelling of the right breast gradually increasing in size for a period of eight years. At the time of operation the tumour was of about the size of a large walnut; it was adherent to the skin but moveable on the pectoral muscle. There were no glands to be felt in the axilla. The growth was said to have been caused by a blow from a stone.

From recent reports from three of the large London hospitals I have collected 1416 cases of carcinoma of the breast; only ten of these occurred in males, or 1 in 140·5. Warfield says that in three years 307 cases of carcinoma of the breast were treated at the Johns Hopkins Hospital; three of these were in males. Roger Williams states that of all the neoplasms of the breast about 1 per cent. occur in males. The same authority gives 50 years as the average age at which the disease commences; in nine cases which I have collected the average age was 61·5 years.

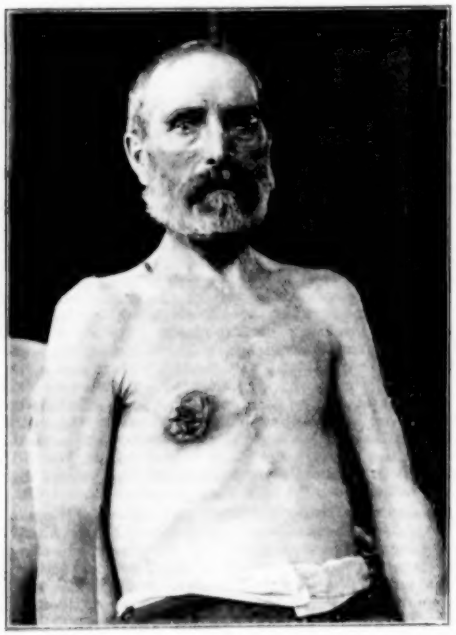
The histories of the five hitherto unpublished cases which form the subject of this paper are as follows.

CASE 1.—The patient, a man, aged 61 years (Fig. 1), was admitted into the Cancer Hospital, under the care of Dr. F. A. Purcell, on April 23rd, 1895. Two years before, whilst lifting a heavy box, he was struck by a corner of it on the

[1] THE LANCET, August 10th, 1889, p. 261.
[2] Transactions of the Pathological Society, vol. xliii.
[3] Ibid., vol. xxvii.
[4] Ibid., vol. xlviii.
[5] Johns Hopkins Hospital Bulletin, October, 1901.
[6] Brit. Med. Jour., vol. i., 1903.

right breast. The breast was bruised and became very tender. Soon afterwards a hard lump "like a button" was found under the nipple; this increased in size and 12 months later it began to discharge. On examination a large, hard, raised mass was found which was ulcerated on the surface and tender to the touch. No remains of the nipple

FIG. 1.



Ulcerating cancer of the breast.

could be seen. The tumour was slightly moveable on the deeper tissues. The glands all matted together were felt in the axilla. The right side of the heart was dilated and emphysema was present. On April 27th the breast and the glands were removed but the patient died on May 12th.

CASE 2.—The patient, a man, aged 48 years, was admitted into the Cancer Hospital on Nov. 11th, 1897, under the care of Dr. Purcell. 12 months previously he noticed pain and itching about the right nipple. There was no history of injury. On examination, just to the outer side of the right nipple was a hard, freely moveable lump, of the size of a small walnut. The skin was adherent but the nipple was not retracted. There was no discharge from the nipple. On the 13th the tumour was excised but the axilla was not opened. The patient made an excellent recovery and was discharged on Dec. 1st. He returned on March 7th, 1902, and stated that for two years he had noticed a small lump in the right axilla and that for one year there had been a small growth in the scar. Both were gradually increasing in size and caused some shooting pain. There were present a small moveable tumour of the size of a hazel nut in the scar, which was not attached to the skin, and a large, moveable mass close to the axilla. Both were removed. After leaving the hospital the patient was lost sight of.

CASE 3.—The patient, a man, aged 63 years, was admitted into the Cancer Hospital on Jan. 9th, 1899, under the care of Dr. Purcell. The history was that three years previously he had injured the right breast and that one year previously he had noticed that the right breast was harder than the left. He never suffered any pain. On examination the right breast was larger than the left and a hard, circular mass about two inches in diameter could be felt just beneath the nipple which was depressed. The mass was adherent to the skin but was moveable on the deeper parts. No glands were felt in the axilla. On the 11th the growth was freely excised. An excellent recovery followed and the patient was discharged from hospital on the 23rd.

CASE 4.—The patient, a man, aged 48 years, was admitted into Charing Cross Hospital on May 19th, 1899, under the care of Mr. H. F. Waterhouse. 12 months previously he injured the right breast so as to cause bruising. Three months before he noticed that the breast was getting hard and that at times there was a discharge of blood from the nipple. He never suffered any pain. On examination the patient was very fat and looked older than his age. There was a marked prominence of the right nipple and a tumour, purple in colour, of the size of a five-shilling piece, could be seen just below and to the inner side of the nipple. On palpation a large hard mass, rounded in shape and of the size of a small orange, could be felt. The skin was adherent but the tumour was moveable on the pectoral muscle. No glands were felt in the axilla. On May 25th the breast was amputated by an elliptical incision and the axilla was cleared out; many glands were found in the latter situation. After leaving the hospital the patient was next seen in January, 1900, when he was quite strong and well and showed no sign of recurrence. In April, 1904, he returned to the hospital with facial paralysis and signs of bulbar paralysis and died on May 1st.

CASE 5.—The patient, a man, aged 62 years (Fig. 2), was admitted into the Cancer Hospital on Oct. 12th, 1903, under the care of Mr. F. B. Jessett. 18 months ago a "boil" appeared on the left side of the chest and another one 16 months later. Five weeks ago the present sore was noticed and it "broke" three weeks afterwards. On the inner side of the left nipple there was a raised, indurated, dusky patch three inches in diameter, the upper part of which was sloughy and was discharging pus. On the 23rd the mass was scraped and swabbed with pure carbolic acid. Microscopically the ulcer was an epithelioma. It was also of some interest to learn that the patient's son was in the hospital at the same time for cancer of the tongue.

FIG. 2.

Epithelioma of the left breast.

The diagnosis of all these five cases was verified after operation by the microscope and in no instance was there any doubt as to the nature of the growth. Cases 1, 2, and 3 were examples of the ordinary scirrhus cancer, Case 4 was a soft spheroidal-celled carcinoma, and Case 5 was a squamous-celled epithelioma. The last case is particularly interesting owing to its extreme rarity. Roger Williams recorded three cases and quotes one case which Czerny described. The following case is of interest although not an example of malignant disease.

A man, aged 44 years, was admitted into the Cancer Hospital on April 7th, 1897, under the care of Mr. Cotterell. The history was that two years previously he had received a bite from a horse on the left breast and that two months previously he noticed a swelling of the left breast which gave him much pain, especially on pressure. On examination the left breast seemed to be in a condition of simple hypertrophy; there was no defined edge to the

swelling which was diffused over the whole area of the breast. The nipple was not prominent and there was no discharge. On the 10th the breast was amputated as malignant disease was suspected. Histologically the growth was a fibro-adenoma. The patient returned to the hospital on July 1st, 1899, with a second fibro-adenoma in the right breast.

Most text-books on surgery dismiss the subject of cancer of the male breast very briefly and Sheild,[7] although discussing the disease at greater length, says that "the symptoms and course are precisely similar to what is found in females." From a study of all the cases with which I am acquainted some facts may be deduced which show that the disease in men does not follow quite the same course as it does in women. The differences may be of minor importance but still are worthy of record. They may be arranged under the following heads: (1) age; (2) side affected; (3) duration; and (4) presence of ulceration.

1. *Age.*—The age at which the disease occurs varies from 12 to 91 years. In nine cases which I have collected the average age was 61·5 years; this is somewhat higher than that given by R. Williams who gives 50 years as the mean. Possibly the difference is due partly to the fact that I have only taken the average of a very small number of cases and partly because in my series Lunn's case is included, the age of his patient being 91 years. At all events, the average age at which the disease occurs in men is many years later than in women; in the latter Sheild says it is most common between 40 and 60 years. Quite recently Leaf,[8] who has investigated 100 cases of cancer of the breast in women, found that the average age at which the disease commences is 49 years two months. Bland-Sutton[9] says it is most common between 40 and 50 years; Watson Cheyne[10] between 35 and 60 years; and Pick[11] between 35 and 55 years. Moreover, a relatively large number of the cases in men commence over the age of 70 years or between 60 and 70 years (Warfield).

2. *Side of the body affected.*—In women carcinoma of the breast is more often found on the left side, whereas the opposite is the case in men. Out of 31 cases quoted by Wagstaffe 16 had the right breast affected and 12 the left; in three instances both sides were diseased. Since the publication of these I have collected 11 cases and of this series the right breast was implicated eight times and the left three, showing that the disease occurs nearly three times as frequently on the right as on the left side.

3. *Duration.*—In 13 cases the length of time that the growth had been noticed by the patient is mentioned; ten years is the longest and three months is the shortest, the mean being 3·36 years. (R. Williams gives 3·16 years.) In women the average duration is somewhat less than this. I am unable to give the total duration of life as in most of the cases it is not recorded, but Warfield mentions one case where the patient lived 35 years. In Wagstaffe's paper the duration of life is given in 30 cases: 11 lived under one year, eight rather more than one year, one over two years, three over three years, five over four years, and two over eight years, the average being 1·63 years.

4. *Presence of ulceration.*—In a large proportion of the patients who present themselves for treatment ulceration of the growth is found. In 12 cases where any mention of the appearance of the breast is made seven were in a state of ulceration, whilst two others presented a dusky red colour and were evidently on the point of breaking down. In one case the ulcer was five inches in diameter. Wagstaffe states that in more than half the number of cases ulceration is present when the patient is first seen. Schuchardt[12] found that in 61 out of 70 cases ulceration was present.

Although a history of previous injury to the breast can often be obtained in women as well as in men, yet in the latter the history seems, as a rule, to be much more definite. Another point that I have observed is the frequency with which the growth starts in or around the nipple. In the 37 cases collected by Warfield the nipple was involved in 18. This site for a tumour of the breast is also seen in women, but in the latter the neoplasm is usually a duct carcinoma, whereas this form of growth is exceedingly rare in men.

The treatment which should be adopted is, as in women, removal of the whole breast, the skin over the breast, the fascia covering the pectoralis major (and the muscle itself if involved), and all the fat and cellular tissue in the axilla. As in the female, if the growth only is excised recurrence quickly follows. Provided that the growth is not too extensive for removal the prognosis after operation is good.

In conclusion I am much indebted to Dr. Purcell, Mr. Jessett, and Mr. Waterhouse for permission to publish their cases; also to Dr. T. J. English for the excellent photographs which he was kind enough to take for me.

Wimpole-street, W.

[7] Diseases of the Breast, 1898.
[8] The Clinical Causes of Cancer of the Breast and its Prevention, 1904.
[9] Tumours, Innocent and Malignant, 1903.
[10] Treves's System of Surgery, 1896.
[11] Surgery, 1899.
[12] Archives für Klinische Chirurgie, Band xxxi., Heft 1, 1884.

A CASE OF CONGENITAL DEFICIENCY OF BOTH UPPER LIMBS.

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THE following is an account of a case of congenital deficiency of the upper limbs and as this is a condition of rare occurrence I consider it worth recording.

On March 2nd, 1902, I was called to a woman four miles away in a country village in Northamptonshire who was stated to be in labour. When I arrived I found her up and walking about. On inquiry the pain did not seem to be severe enough for labour pains. I asked her when she expected to be confined and was told that it was not due for another month. I thought that it was advisable, however, to make an examination as there had been a considerable amount of "flooding." The abdomen was distended and the uterus was evidently enlarged, the enlargemnt corresponding to about the eighth month of pregnancy. The os was only slightly dilated and a soft mass projected from it which proved to be a small clot of blood. Beyond this I could with difficulty feel the head. Thinking it possible to stave off labour I prescribed opium and rest. I saw the patient on the next day and hæmorrhage had ceased. Two days later, however, I received an urgent message stating that the "waters had burst," and asking me to come at once. On arrival at the patient's house I was told that the child was already born but that he possessed no arms. I examined the child and found that he was alive but was evidently premature, about eight months as I expected. There was total absence of any signs of arms but otherwise the child was complete in every respect. I did not think he would live but requested the mother to allow me to have him photographed. The child, however, died in two days but I managed to secure a photograph of his body (Fig. 1). I also obtained permission to make a post-mortem examination, explaining that it was a case of considerable rarity and the opportunity ought not to be missed.

It was difficult to make out on feeling through the skin the existence of any clavicles or scapulæ, so I made an incision through the skin on the left side and a careful dissection revealed their presence; these were preserved in formalin and put aside till the opportunity arose for an accurate dissection of the parts, as I wished to know what had become of the glenoid cavity of the scapula and the muscles which normally arise from the clavicle or scapula and are inserted into the humerus. The arrangement I did find was as follows and is not without interest. Over the acromio-clavicular joint and arising from its ligaments was a dense aponeurosis (Fig. 2) and into this most of the muscles were inserted (as far as I could make out from the smallness of the muscles I had to deal with). In the posterior region the supraspinatus, infraspinatus, and teres minor all arose from their normal places on scapula and were inserted into this same aponeurosis over the acromio-clavicular joint. There were no signs of the teres major, deltoid, or of the triceps. The aponeurosis arose from all those parts where the deltoid normally arises—namely, the spine of the scapula and the clavicle. Of the pectoral muscles I could only find one and this also was inserted into the aponeurosis. I did not attempt to dissect out the vessels and nerves, for these were of such small size that the time occupied would have been more than I had at my disposal. I next proceeded to clear the bones of all muscles, &c., and to investigate the condition of the various articular surfaces. The clavicle appeared to be quite normal, there being free movement at both the sterno-clavicular and acromio-clavicular joints; but it was otherwise with

the scapula, its axillary edge differing considerably from the normal anatomy of that part. The most prominent feature of the scapula is the condition of the coracoid process. Instead of being the normal small process, curved forward beneath and in front of the clavicle, it consists of one big process, being the continuation upwards of the body of the scapula. This extended behind, beneath, and above the clavicle, and there was a small articular surface between it and the clavicle. The tip of the process was capped with a large piece of articular cartilage. The size of this process, I presume, might be accounted for by the fact that owing to some error in development the cartilages of the glenoid cavity and the tip of the coracoid process had become fused into one common cartilage, possibly owing to some accidental jarring of the fœtus in utero, but this could scarcely cause a symmetrical deformity. There is an attempt at a glenoid cavity at the axillary end of the base of the spine of the scapula in the shape of a small boss of bone with small articular surface placed inferiorly to the spine of the scapula. Its position can just be seen underneath the aponeurosis (A) in Fig. 2. The acromio-clavicular joint was quite normal but for a large amount of fibrous tissue forming the aponeurosis arising from it. There were no signs of a coraco-acromial ligament. The biceps and all muscles which usually connect the two bones with the humerus appeared to be entirely absent.

FIG. 1.

A case of congenital deficiency of the upper extremities.

FIG. 2.

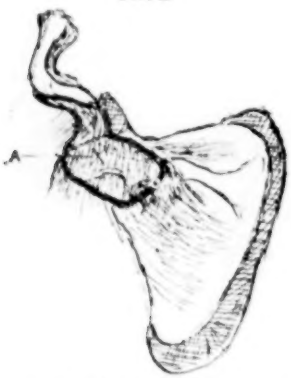

Diagram to show approximate area of aponeurosis. A, Aponeurosis.

I am greatly indebted to Mr. Thomas C. Pinny of Harlestone, Northampton, for the photograph illustrating the case.
Burgess Hill.

ON THREE CASES OF SUPRARENAL APOPLEXY IN CHILDREN.

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THE possibility of almost sudden death in infants being due to hæmorrhage into the suprarenal capsules is so little recognised and so little is known about this disease that it seems worth while to record the following three cases with which I have come in contact.

CASE 1.—The patient was a baby, aged three days. The confinement was attended by St. Mary's Hospital Maternity Charity. He was a full term child and labour was easy. He never breathed freely; he cried but not vigorously; however, he got a fairly good colour and death was not anticipated. On the morning of the third day the breathing became grunting in character and the child moaned and refused to take the breast. On the same evening he had a general convulsion, with loss of consciousness, became black in the face, blood ran from the nose and mouth, and he died in half an hour.

Post-mortem examination showed the child to be fairly well nourished. The neck, the head, and the face were covered with a purpuric eruption. The navel was quite sweet. There were no marks of violence. The internal organs were all normal with the exception of the lung and the suprarenal bodies. The right heart was distended. The lower lobe of the right lung contained a large hæmorrhage which had burst through the bronchioles and could be traced up into the trachea and larynx and was evidently the source of the blood seen externally. The suprarenal bodies were reddish-purple in colour and stood out against the posterior abdominal wall. They were equally implicated and were moderately distended with what proved to be on section recent blood extravasation. Hæmorrhage was confined to the suprarenals, the surrounding structures being unaffected. The family history was not relevant. The mother had had three other children; there had been no miscarriages and there was no family disease.

CASE 2.—The patient was a boy, an only child, two months old. He had been entirely breast-fed and had been perfectly healthy. He took the breast well and there had been no gastro-intestinal disturbance. On Feb. 29th, 1904, the mother fed him at 11 P.M.; he took the breast and she noticed nothing wrong and afterwards he went to sleep. On the next morning at 5 A.M. the mother noticed a change; the child was breathing heavily. She said, however, that the colour was good, that there was no loss of consciousness, that the fists were not clenched, and that there were no squint, no sort of fit, and no screaming or apparent pain. The natural functions were performed normally. The mother could not get the child to suck. However, he went to sleep

for about ten minutes and then woke again and again refused the breast. He was then redressed and two little reddish-purple spots were noticed over the buttocks and one on the neck. Others were looked for but none were seen. He was brought up hurriedly to St. Mary's Hospital but died on the way. I saw the child at 7 A.M., just after death. There was a purpuric eruption over the face, the chest, and the abdomen, and there were a few spots elsewhere. He was a plump baby and there was nothing in the throat to indicate the cause of death, nor were there any external marks of violence. No history of tubercle, syphilis, rheumatism, or hæmophilia in the family could be obtained. There was no infectious fever in the neighbourhood. The child had not been vaccinated.

Post mortem nothing abnormal was found except suprarenal hæmorrhage and purpura. The heart, the lungs, the brain, the kidneys, and the spleen were all healthy. The suprarenals were equally affected, were dark purple in colour, and appeared to be distended with blood though only slightly increased in bulk. The hæmorrhage had not encroached beyond the organs themselves. There was no thrombosis of the renal or inferior cava veins. On section the medulla was seen to be more deeply tinted than the cortex which was reddish in colour. Microscopically the capsule was stretched, with effusion of blood beneath it in places. The cortex was distinctly recognisable but contained a considerable number of red blood cells. In some places in the cortex the parenchymatous cells were entirely replaced by blood, in others there were just a few gland cells left, while in a very few spots the parenchyma was little changed. The cortical cells which remained seemed normal and took the stain well. The medulla was greatly disorganised and showed marked necrotic change. The gland cells were indefinite in outline, swollen, and homogeneous, and took the stain badly; intermixing with them were many blood cells, greatly in the majority. The hæmorrhage into the medulla seemed to precede that of the cortex and here and there were clumps of brownish granules due to the breaking-down of hæmoglobin. There was no fatty change discernible and the blood-vessels were quite normal.

For the notes of the third case I am indebted to Mr. A. F. Cole, late resident medical officer of the Mildmay Mission Hospital, Bethnal Green, and to Dr. W. Gauld, medical superintendent of the same institution, for permission to publish them.

CASE 3.—The patient was a girl, aged seven months, who previously had been quite healthy and who was taken to the Mildmay Mission Hospital on Feb. 14th, 1904, because she had awakened screaming at 3.30 that morning. The onset of an exanthem was suspected and the mother was told to take the child again if the rash appeared. The temperature was 99·2° F. At 6 P.M. she was taken back again. The temperature was 104° and she was covered with an intense purpuric eruption far thicker on the extremities than on the abdomen where the patches were further apart. The child was now distinctly ill, warranting the giving of a bad prognosis. She died on the next morning in a convulsion just 22½ hours after the initial screaming fit and 12 hours after the purpura had appeared. No history of small-pox, scarlet fever, measles, &c., occurring in the neighbourhood could be obtained. She had been breast-fed from birth and had had no drugging or patent food.

Post mortem the child was found to be an ordinary specimen, such as the neighbourhood produces, with no excess of fat on the body. Nothing abnormal anywhere was found except in the suprarenals. There was no hæmorrhage from the mucous or serous membranes. The suprarenals appeared as two masses of black blood clot, nearly half the size of the kidneys themselves, giving a remarkably vivid appearance on disturbing the intestines. Hæmorrhage was equally marked on both sides and was confined to the suprarenals.

The state of our ignorance of the etiology of suprarenal hæmorrhage is sufficiently exemplified by the number of theories which have been put forward. Spencer,[1] from examination of stillborn children, 20 per cent. of whom he found had suprarenal hæmorrhage, believed the prime factor to lie in the delicacy of the fœtal blood-vessels in this organ either normally or as the result of syphilis. The additional strain necessary to cause rupture of the delicate blood-vessels he ascribed chiefly to mechanical squeezing by the uterus during labour and to external violence, while he considered that asphyxia held a place of quite secondary importance. In support of this view he instanced his own cases, most of which succeeded difficult labour and especially breech births where manual interference is so often needed. Mattei[2] considered that the large, heavy infantile liver was pressed back against the posterior abdominal wall during labour, squeezing the inferior vena cava against the vertebral column, and so damming back the blood into the suprarenals and causing it to burst its bounds. Against these theories is the fact that in many cases a note has been made that labour was easy. Still,[3] in 1898, from an analysis of 16 cases of hæmorrhage and congestion (the only ones he was able to collect), believed that while trauma and asphyxia would account for many of the cases in stillborn children and children dying within the first few days of birth, it was insufficient to explain those occurring later. After the fifth day he suggested that the cause might be found in fatty degeneration of the arterial walls. Others he believed to be due to a toxin. Hütinel[4] advanced the theory that suprarenal hæmorrhages were preceded by thrombosis of the renal and inferior caval veins, into which the plexuses of the organ empty, resulting in consequent engorgement of these plexuses and subsequent rupture. Many authorities believe this condition to be symptomatic of an acute specific fever, at any rate in the older infants. Hamill[5] was able to collect from various sources 90 cases of children in whom suprarenal hæmorrhage or congestion occurred. These include 28 stillborn children, while some are merely pathological reports. From an exhaustive study of the literature of these cases and from careful analysis he apportioned them into three groups: (1) those in which death occurs during or before labour, due to manipulation and trauma; (2) those in which it occurs between birth and detachment of the cord, due chiefly to infection of the cord; and (3) those dying afterwards in which the cause is of an infectious or toxic nature. Of the 90 cases by far the greatest number belonged to the first group while only 11 came under the last heading.

There can be no doubt that while asphyxia and trauma can account for the great bulk of cases yet there is separable a small class, as pointed out by Eustace Talbot,[6] for the explanation of which we must look farther afield. This group consists of cases of death occurring in older infants and is a very limited one. Talbot only reports four, to which he added two which came in his own experience. Into this group my last two cases fall. Those which come under this head are characterised by a very definite train of symptoms. A child previously well is suddenly seized with acute abdominal pain and vomiting and rapidly becomes seriously ill. The temperature rises and an exanthem is often suspected. No characteristic rash, however, appears although sometimes there is purpura. In a few cases there are other hæmorrhages resembling the "purpura fulminans" of Henoch, convulsions generally supervene, the patient becomes moribund, and death occurs in a period which may be counted by hours. It is to explain these cases that the toxæmic theory is called to our aid and seems most nearly to answer the question.

Firstly, there is a close resemblance between the clinical records of these cases and of those of acute specific diseases of a malignant type. Secondly, there is no lack of experimental evidence suggestive of a toxic origin. Gärtner[7] isolated a bacillus like the colon bacillus, but not identical, which caused visceral hæmorrhage in dogs by intraperitoneal injection and recovered it from the animal's blood. Klebs and Eppinger[8] isolated a micrococcus in cases of hæmorrhage into the viscera of children. Roux and Yersin[9] caused congestion of the suprarenals by injection hypodermically of diphtheria bacilli into rabbits, guinea-pigs, and pigeons. Langlois and Charrin[10] produced engorgement of the suprarenals by injection of bacillus pyocyaneus. Pelliet[11] obtained a like

[1] Transactions of the Obstetrical Society of London, 1891, vol. xxxiii

[2] Lo Sperimentale, 1863, and Journal de Medecine, de Chirurgie, et de Pharmacologie de Bruxelles, 1865.

[3] Transactions of the Pathological Society of London, 1897-98, vol. xli.

[4] Thèse de Paris, 1877.

[5] Archives of Pediatrics, New York, 1901.

[6] St. Bartholomew's Hospital Reports, 1900.

[7] Archiv für Kinderheilkunde, 1895.

[8] Boston Medical and Surgical Journal, December, 1891.

[9] Annales de l'Institut Pasteur, June, 1889.

[10] Comptes Rendus des Seances de la Société de Biologie, 1893, p. 812.

[11] Le Progrès Medical, 1894.

result by subcutaneous injection of essence of cloves into rabbits and guinea-pigs. Roger[12] used a virulent culture of Friedländer's bacillus and produced in guinea-pigs engorgement and effusion into those glands. Talbot[13] isolated from one case a streptococcus like pyogenes aureus but which differed from it in that it coagulated milk. Riesman[14] found staphylococcus aureus and albus in pure culture from the blood and tissues of four cases.

Taking these data into consideration the possibility of a toxæmic origin becomes a probability but there are many difficulties. In the first place, it is surprising that in nearly every case in which bacteriological examination has been made the result proved negative. Then, again, in no case is there evidence of exposure to any source of infection, and furthermore, while profound toxæmia, the result of specific infection as in diphtheria and summer diarrhœa, is a common cause of death in children, cases of hæmorrhage into the suprarenals are very rare. If it be an infection presumably it is a special infection of unknown origin. I advance the crude state of our knowledge of this not unimportant condition as sufficient excuse for the publication of these additional cases.

London.

FURTHER NOTE ON SOME ADDITIONAL POINTS IN CONNEXION WITH CHLOROFORMED CALF VACCINE.[1]

BY ALAN B. GREEN, M.A., M.D. CANTAB.

(From the Government Lymph Laboratories.)

SINCE April, 1903, the date of my preliminary note[2] on this subject, the preparation of calf vaccine by the chloroform process has been carried on at these laboratories and a large number of vaccines have now been treated by this method. These lymphs have been freed from their non-spore-bearing extraneous bacteria within a period ranging between one and eight hours after their collection from the calf and have, subject to the usual tests, been issued for general vaccination purposes about two weeks after collection. Their use has resulted in high "case" and "insertion" success. The following points in connexion with these vaccines have been investigated.

The effect of temperature in the elimination of extraneous micro-organisms from crude calf vaccine by the chloroform process.—It has been ascertained that the temperature at which vaccine emulsion is subjected to the chloroform process determines largely the rate at which the extraneous bacteria of that emulsion are eliminated. This has been shown in two ways. In the first set of experiments vaccine emulsion consisting of one part by weight of pulp and two parts by weight of water was divided into several equal portions. Each portion was then submitted to a pre-determined and separate temperature along with the set of apparatus to be used for its treatment with chloroform. These temperatures ranged from 10° to 37° C. In each case after both emulsion and apparatus had reached the requisite temperature of the experiment passage of chloroform vapour and air through the emulsion was effected. It was found by means of plate cultivations that elimination of extraneous micro-organisms was most rapidly effected in the case of the emulsions chloroformed at 37° C. and that elimination was most slowly effected in the case of the emulsions chloroformed at 10° C. Between these temperatures the gradation of germicidal action was very constant. The potency of these vaccines was subsequently tested by inoculations on calves, with the result that vaccines which had been subjected to the chloroform process at temperatures below 30° C. caused rather better vesiculation than the vaccines treated at temperatures above 30° C. In the second set of experiments vaccine emulsion, prepared as before, was divided into a number of equal portions, each of which was placed in a separate test-tube. In this case the emulsions were all subjected to the chloroform process at 15° C. After the passage of chloroform vapour and air through the emulsions for half an hour, the entrance and exit of each vaccine tube were clamped in order that none of the contained chloroform might escape and the tubes were placed in temperatures ranging from 10° to 37° C. for 24 hours. In the case of these emulsions, where the amount of chloroform present in each must have been approximately the same, a similar gradation of germicidal action was evidenced as in the former set of experiments, elimination occurring most rapidly in the case of emulsions submitted to a temperature of 37° C. and most slowly in the case of emulsions submitted to a temperature of 10° C. The potency of each of these vaccine emulsions was tested as before by inoculations on calves, with the result that vaccines which had been submitted to temperatures below 30° C. gave slightly better vesicles than vaccines which had been submitted to temperatures above 30° C. Both series of experiments indicate that the temperatures at which extraneous bacteria are killed most quickly in vaccine emulsion by the chloroform process, the specific germ being left meanwhile in state of full activity, lie probably between 18° and 23° C.

The species of micro-organisms killed by the chloroform process.—In addition to the extraneous micro-organisms mentioned in the preliminary note as commonly occurring in crude calf vaccine and as being eliminated therefrom by means of chloroform experiments have been made with further species of bacteria. These, with the exception of the bacillus proteus vulgaris and the bacillus coli communis, have never been found in vaccine lymph at these laboratories, but they have been subjected to the action of chloroform in order that knowledge of the germicidal value of that process might be extended. The bacteria thus experimented with are the bacillus proteus vulgaris, bacillus prodigiosus, bacillus pyocyaneus, bacillus fluorescens liquefaciens, bacillus coli communis, bacillus typhosus, bacillus diphtheriæ, bacillus mallei, bacillus pestis, bacillus tuberculosis, and spirillum choleræ Asiaticæ. Broth emulsions of these bacteria were first experimented with. As soon as an emulsion was established a suitable culture medium was inoculated with a small portion of it and duly incubated in order to ascertain whether the species of micro-organism in question could be easily recovered from the emulsion. The passage of chloroform vapour and air through the emulsion was then begun and during the process at regular intervals further cultivations were made from it. In every instance the bacteria of experiment were found to have been killed at intervals ranging from one to eight hours from the commencement of the process. In a second set of experiments vaccine emulsions were prepared by mixing one part by weight of pulp with two parts by weight of water. To these emulsions the bacteria to be experimented with were added and cultivations were at once made therefrom in each instance to ascertain whether recovery of the bacteria was possible. Passage of chloroform vapour and air through the emulsions was then carried out and further cultivations were made from them from time to time. As in the case of the broth emulsions, after the passage of the chloroform vapour and air for a few hours the bacteria in the vaccine emulsions were killed. In the case of each experiment of the two foregoing series a "control" preparation was established in which the bacteria were found to be still alive after the bacteria of the corresponding experimental preparation had been killed. The vaccine used in these experiments was collected for experimental purposes only.

The keeping properties of chloroformed vaccines.—The keeping properties of chloroformed vaccines have been tested in the following ways. First, vaccine lymph freshly collected from the calf was divided into two portions. One portion after emulsification with water was subjected to the chloroform process and after elimination of its extraneous micro-organisms the chloroform was partly removed by the passage through the emulsion of a stream of sterile air. The other portion was emulsified with 50 per cent. of glycerine and water solution. These chloroformed and glycerinated emulsions were, within 24 hours of their collection from the calf, each subdivided into five parts, one part of each being stored at 10°, 20°, 25°, 30°, and 37° C. The potency of these several parts was subsequently tested on calves at regular intervals of time. The result showed (*a*) that the highest potency was retained for the longest time, alike for the chloroformed and glycerinated portions, by the

[12] Comptes Rendus des Séances de la Société de Biologie, January, 1894.

[13] St. Bartholomew's Hospital Reports, 1900.

[14] Post-Mortem Reports, University Hospital, Philadelphia.

[1] A paper read before the Royal Society on May 5th, 1904. Proceedings of the Royal Society, 1903, and THE LANCET, June 20th, 1903, p. 1738.

emulsions stored at 10° C., for the shortest time, alike again by both portions, by emulsions stored at 37° C.; and (*b*) that the potency as between the chloroformed and glycerinated vaccine kept at any one of the foregoing temperatures was practically the same, the only marked difference occurring in case of the vaccines kept at 37° C., a temperature at which the chloroformed emulsions retained potency for a longer period than did the glycerinated emulsions.

Upon the completion of the foregoing experiments, a further number of vaccines collected from vesicles of good average quality were emulsified with water in the proportion of one part by weight of pulp to two parts by weight of water, and subjected as before to the chloroform process. When elimination of their extraneous bacteria had been effected part of the chloroform was removed from the emulsions and these were placed in the ice-chest at 10° C. Immediately prior to the issue of these vaccines the remainder of the chloroform was removed and glycerine was added in the proportion of two parts by weight of glycerine to the original weight of vaccine pulp. These vaccines were later, after passing the requisite tests, issued for general vaccinating purposes, a similar interval being allowed to elapse between their collection from the calf and subsequent issue as is usual at these laboratories in the case of glycerinated vaccine—namely, about six weeks. In the case of two of these chloroformed vaccines an interval of two months elapsed between collection and issue. The use of these chloroformed vaccines has been attended with results showing high "case" and "insertion" success.

Summary.—Experience of the further use of the chloroform process in the preparation of a large number of vaccines during the past year confirms the conclusions arrived at in the preliminary note. And meanwhile important additional knowledge has been gained—namely, that chloroformed calf vaccine, if originally of sufficiently high potency, will, when prepared and stored under suitable conditions, retain for a considerable time a high degree of potency and this notwithstanding that the extraneous organisms had been rapidly eliminated from it in an early stage of its preparation.

WOUND OF THE LEFT THORAX, WITH EXTENSIVE LACERATION OF THE PLEURA, ETC.

BY E. WYNSTONE-WATERS.

ON March 20th, at about 2.30 A.M., I was awakened by the arrival of a number of natives at my house and I soon discovered that one of them, a man of about 25 years of age, had received a severe wound with a native knife. The wound occupied the left ninth intercostal space, its direction being oblique and parallel to the ninth rib, and extended posteriorly somewhat beyond the posterior axillary line, while in front it reached the anterior axillary line. The wound implicated the parietal pleura in nearly its whole length, except posteriorly where the incision became more superficial. The visceral pleura was also implicated, but to a less extent, and the lung tissue was lacerated. At the time I made the examination there were very considerable hæmorrhage and at first a marked whistling sound which, however, soon became indistinct. Pneumothorax was established, air having rushed in and separated the parietal and visceral pleura, and the lung was somewhat collapsed in virtue of its elasticity.

The wound having been thoroughly cleansed I did not attempt to reduce its size, thus being certain of a more efficient drainage and at the same time obtaining a larger field for observation. On the next day on removing the dressings I found that a considerable amount of hæmorrhage had occurred, while the external aperture was filled by a closely fitting plug of lung tissue which protruded somewhat beyond the external surface. No attempt was made to reduce this protrusion but it was kept thoroughly aseptic. The protruded lung was quite healthy and showed considerable crepitation due to the residual air. On the fourth day slight but steady pressure was applied to the protruded lung tissue and a firm compress of carbolic tow was strapped over the part. On the fifth day on removing the dressings I found that the lung tissue had yielded to the continued pressure of the compress and was inside the thoracic cavity. Shortly after this granulations were seen to be rapidly springing up all round. The area at first occupied by the plug of lung now presented a pink field of healthy newly formed tissue, only a very slight amount of pus being present on the dressings. The wound was kept plugged with cyanide gauze, so that the cavity was filled with healthy tissue from the very bottom, there being no opportunity for the development of any sinuses or other false cavities. Skin gradually spread from the edges of the wound and was soon seen to cover up the whole site of the lesion, except where a few exuberant granulations prevented its further encroachment. These islands of new tissue, however, soon yielded to a few touches from a crystal of blue stone and the skin rapidly covered up their original site.

This case is one of exceeding interest to the physiologist as well as to the pathologist and surgeon, showing nature in one of her happiest moods. The patient belongs to the Waswahili, a subdivision of the Bantu section of the African negro, a race occupying a "thin line along a thousand miles of creeks and islands" on the East coast of Africa. The protruding portion of lung by its constant pressure caused inflammatory adhesion to take place between the visceral and parietal pleura along the line of pressure, thus completely sealing up the rent into the pleural cavity and establishing a continuity of parietal and visceral pleura—in fact, producing a condition resembling the normal pleura—viz., a closed sac. The air in this now closed sac becoming rapidly absorbed, the lung expanded and the parietal and visceral layers of the pleura coming into apposition the normal process of respiration was again established. Doubtless in time the inflammatory adhesion of the pleura at the peripheral margin will become fibrous and the exposed surface of lung, which has been forced to retire within its own cavity, will adhere and become united by fibrous tissue to the scar tissue filling the original wound. Thus, by a perfectly natural process, aided by strictly antiseptic precautions, an exceedingly severe and dangerous wound was closed, the only drawback or compensation nature will impose being a somewhat diminished "vital capacity" on the affected side.

Lamu, British East Africa, May, 1904.

GYNÆCOMASTIA.

BY EDWIN S. CRISPIN, M.R.C.S. ENG., L.R.C.P. LOND.,
CIVIL SURGEON AND HON. BIMBASHI, EGYPTIAN ARMY.

I READ with interest the article on Gynæcomastia in THE LANCET of March 26th, p. 865, by my colleagues, Mr. A. Webb Jones and Dr. J. B. Christopherson as I happened to be at Merowi when I received that number of THE LANCET where Case 1 is still at work and where also I found a third case. I regret that I was unable to get a photograph of the latter as I had not my camera with me; he has a distinct gland in each breast of the size of a small Tangerine orange which can be easily moved over the muscles of the chest; the nipples are also well developed. He also is a Sudanese, a Nubawi, Case 1 being a Furawi, not a Firtitawi, as mentioned in that article, but, however, they all come from the neighbourhood of Darfur.

I believe that gynæcomastia is not at all an uncommon condition amongst the Sudanese of Central Africa. I saw two or three more cases amongst the Dinkas and Baris while I was travelling on the Bahr-el-Ghebel between Lake No and Gondokoro. Sir Harry Johnston in his book, "British Central Africa," gives a very good reproduction of a photograph of a similar case on p. 399 and says it is very common amongst Sudanese. I do not think that he can have confused these cases with those of prominent pectoral development of fat and muscle, as a digital examination would at once settle the diagnosis, but in a photograph these cases are very similar. I inclose a photograph taken by Dr. J. Warnock of the Egyptian Asylum, of a case of this latter sort, the

apparent female breasts being chiefly due to excessive fat. I believe the condition of gynæcomastia is extremely rare amongst Egyptians, as during several months spent all over

Egypt examining conscripts for the Egyptian Army at the rate of about 300 a day I only remember seeing one case.

Merowi, Sudan.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Prooemium.

ROYAL FREE HOSPITAL.

A CASE OF REPEATED INTESTINAL OBSTRUCTION FOLLOWING AN OPERATION FOR REMOVAL OF A CYST OF THE PELVIS; RECOVERY.

(Under the care of Dr. T. C. HAYES and Mr. T. P. LEGG.)

FOR the notes of the case we are indebted to Mrs. F. E. Willey, M.B., surgical registrar to the hospital.

The patient, a young unmarried woman, aged 20 years, was admitted to the Royal Free Hospital on March 4th, 1902, under the care of Dr. Hayes, suffering from prolapse of the uterus. She stated that 12 months previously a "lump" had appeared at the vulval orifice but it had caused her no inconvenience. Six months afterwards the lump became much larger and appeared directly she got out of bed in the morning and remained at the vulval orifice till she pushed it up again, which she did every night on going to bed. A month before admission she had had some trouble with micturition, which, however, only seems to have been very slight. She had always suffered from constipation and a year ago she had an acute illness, characterised by severe abdominal pain, complete constipation, and vomiting which was described as fæcal. At this time she was in bed for three weeks. The menstrual periods had always been regular but scanty.

On examining the abdomen a smooth, rounded, elastic swelling was found arising out of the pelvis rather more on the right than on the left side and reaching as high as the umbilicus; it crossed the mid-line and on the right side extended outwards into the iliac region as far as the anterior superior iliac spine. On percussion a dull note was obtained over the swelling, in which a fluid thrill was obtainable. The rest of the abdomen presented nothing abnormal and it was quite soft. Per vaginam the uterus was found to be prolapsed completely. It could be replaced in the vagina, but the abdominal swelling, which bulged into the posterior cul-de-sac, prevented complete reposition. Bimanually the swelling in the abdomen was found to be continuous with that in the posterior cul-de-sac of the vagina. The cervix uteri was greatly hypertrophied and softened. The external os was small. A sound passed one inch beyond the normal length.

On March 15th Dr. Hayes opened the abdomen in the mid-line above the pubes. Much difficulty was experienced in defining the tumour owing to the presence of numerous old adhesions which matted the tumour and intestines to one another and to the parietes. During the separation of the adhesions the tumour was ruptured and a thin, yellow, cloudy fluid escaped. The ovary was found to be considerably enlarged. The tumour, ovary, and tube having been isolated were brought up to the surface of the abdomen and the pedicle was ligated by interlocking sutures of thick silk which were buried in the stump of the broad ligament and tube by suturing the peritoneum over the raw surface. The wound was closed by three layers of sutures, no drainage being employed as there was no oozing after the parts had been wiped thoroughly. On examining the specimen it was found to consist of (1) a smooth-walled cavity containing six ounces of yellowish fluid, apparently a cyst of the broad ligament; (2) the Fallopian tube, which was one and three quarter inches long, closely connected with the wall of the cyst, but not opening into it; and (3) an enlarged cystic ovary which also did not appear to be connected with the cyst. The fluid in the cyst was alkaline and had a specific gravity of 1013. Microscopically blood cells only were found. The left ovary was considerably enlarged and bound down by adhesions. On account of the patient's age and the absence of any other evidence of disease it was not removed. During the first 24 hours after the operation the patient vomited frequently, the pulse was under 100 per minute, and she made good progress till the 19th, on which day vomiting recurred and she had a good deal of pain in the lower part of the abdomen. An enema and an aperient did not open the bowels, but the vomiting was checked by refraining from giving her anything by the mouth. On the 22nd the bowels were opened, the pain in the abdomen was less, and the pulse-rate was 96. On the 24th vomiting recommenced and became more and more frequent until in the evening it was distinctly feculent. She was obviously very ill. The pulse-rate rapidly increased to 120 per minute and the abdomen became distended. Peristalsis of the intestine was quite easily visible. Mr. Legg decided to open the abdomen, which was done through the former operation wound. A broad adhesion was found binding the subjacent coil of the intestine to the line of the scar and kinking it, the intestine above being much distended. In separating this coil the wall of the bowel was denuded of its peritoneal coat for about two inches of its length. Many other adhesions, some recent and others of older formation, were separated and the bowels were freed as much as possible. In this proceeding a small cavity containing recent blood clot was found in the right side of the pelvis. A drainage-tube was placed in this cavity and brought out through the lower part of the incision, the rest of the wound being entirely closed. Both before and after the operation, whilst the patient was under the anæsthetic, the stomach was washed out with hot water and a couple of ounces of haustus sennæ were put into the stomach before the tube was removed. She vomited at once on coming round from the anæsthetic. Five minims of liquor strychninæ were given hypodermically every four hours and a drachm of sodium sulphate every two hours. At the end of 24 hours she was able to take fluid nourishment without being sick and her general condition was greatly improved in every respect. This continued till the early morning of the 28th, when the vomiting and pain returned with increased severity, the abdomen became distended, and peristaltic movements of the bowel were easily seen. Her bowels had not been opened since the operation in spite of turpentine enemata, castor oil, &c. The wound was again

opened; the adhesions were very numerous and many fresh ones seemed to have formed, binding down the intestines, the most adherent coil of which was freed and fixed to the upper angle of the wound without opening it. As before the patient was much relieved by the operation and she rapidly improved, the pulse coming down to nearly its normal rate and the bowels being opened twice on April 2nd. This state was maintained till April 5th when the previous symptoms again recurred, the pulse rapidly rising to 116. The wound was reopened; a coil of the small bowel was found considerably distended and fixed by adhesions in the neighbourhood of the scar and was severely kinked. On tracing this portion of bowel it was found to be continuous with that which had been fixed to the upper angle of the wound; below it was tightly bound down to the brim of the pelvis. This loop was brought out of the wound and isolated by packing off the rest of the abdominal cavity with gauze. It was covered with protective and ordinary dressings were applied. During the next two or three days the patient was very ill, the chief symptoms being vomiting and abdominal pain, but the pulse kept about 100 per minute. On the 12th the bowels were opened naturally and afterwards they acted regularly. On the 14th the gauze packing was removed, a smaller amount being lightly replaced on each side of the loop, which had become partly withdrawn into the abdominal cavity and was covered by granulations. Slowly the whole loop was withdrawn and as this took place the wound closed, so that on May 28th only a small granulating area was left and she was in excellent health. The bowels acted daily with the aid of a belladonna and aloes pill. On June 19th she left the hospital.

Remarks by Mr. LEGG.—This case presents some features of interest. In the first place, the extent of the adhesions found at the operation for the removal of the cyst was somewhat unusual. These were, no doubt, the result of the acute abdominal attack (which seems to have been due to acute peritonitis) which she had suffered from a year before admission. The patient had not had any children or miscarriages and there was no history of a vaginal discharge. In the second place, the repeated attacks of intestinal obstruction coming on at short intervals and developing acutely when the patient appeared to be progressing favourably. This patient had three attacks in less than a fortnight—viz., on March 24th and 28th and on April 5th. The patient's condition after the operation for removal of the tumour was not very satisfactory. She had considerable abdominal pain, repeated attacks of vomiting, and there was a good deal of difficulty in getting an action of the bowels. On the ninth day the symptoms of intestinal obstruction became unmistakeable and developed acutely. The relief obtained by opening the abdomen and separating the adhesions was immediate but it only lasted a few days, for on March 28th all the symptoms recurred. At this operation, which was done by my colleague Mr. E. W. Roughton, the loop of intestine which was fixed to the wound was not opened because it was impossible to tell which part of the small bowel it belonged to and if it had been high up in the jejunum a fistulous opening in the worst position would have resulted. Further, it was hoped that by freeing the adhesions the obstruction would be relieved and if not the loop fixed to the abdominal parietes could be opened at once. These hopes were fulfilled and on April 2nd the bowels were opened but on the 5th all the signs of intestinal obstruction were again present and the abdomen was reopened. It appeared to be always the same loop of intestine which was giving rise to the symptoms—viz., that piece which had been stripped of its peritoneum at the first operation for the relief of the obstruction. Resection did not appear to be possible as the loop was firmly bound down to the posterior part of the brim of the pelvis. The only method feasible was to isolate this loop by bringing it out of the wound and so shutting it off from the rest of the abdominal cavity. If the patient recovered further operative treatment could then be undertaken. The bowel above the loop attached to the skin was not greatly distended, therefore it was not opened. For some days there was a good deal of abdominal distension but the vomiting soon ceased and the pulse remained slow. The loop was slowly withdrawn into the abdominal cavity; it was covered with granulations and there must have been many adhesions around it, yet no signs or symptoms of intestinal obstruction again arose. At the present time the patient is in perfect health. Her bowels act regularly with the aid of an aperient pill. For some time after the operation she wore an abdominal belt but she has long since discarded it and there is very little bulging of the scar.

LIVERPOOL INFIRMARY FOR CHILDREN.

FOUR CASES OF STRANGULATED INGUINAL HERNIA IN INFANTS AGED 17 DAYS, FIVE WEEKS, FOUR MONTHS, AND 12 MONTHS.

(Under the care of Mr. R. C. DUS.)

CASE 1.—The patient was a male, 17 days old. This infant was breast-fed. There had been vomiting several times daily since birth but the bowels had moved regularly. Three days before admission to the hospital he became restless, appeared to be in severe pain, and began to vomit frequently. A medical man was called in and strangulated left inguinal hernia was diagnosed. Attempts at reduction failed. The following day all the symptoms were aggravated. The vomited matter became green. A soap-and-water enema resulted in slight movement of the bowels. 72 hours were allowed to elapse after the hernia was first noticed before the infant was brought to the hospital. On admission he was in a collapsed state; an irreducible hernia occupied the left inguinal canal and scrotum. No phimosis was present. Operation was at once undertaken. The constriction was found at the internal abdominal ring and divided. On opening the sac, which was congenital in type, two or three drachms of blood-stained serum escaped. The contents were a coil of small intestine deep violet in colour but retaining its gloss. The seat of constriction was examined. A considerable degree of anæmia was present, particularly at the point of exit, but the surface was smooth and glistening and the appearances seemed to warrant a return of the intestine. This was carried out. The sac was ligatured at its neck, the distal portion was removed, and a radical cure was performed. The child's condition was grave for several hours after the operation but gradually improvement occurred. The bowels moved three times during the first 24 hours, there was no vomiting, and all appeared to be going well. 12 hours later a sudden change for the worse occurred, the pulse became feeble, the temperature, previously normal, rose to 101° F., vomiting occurred several times in rapid succession, and death followed 36 hours after the operation. No signs of inflammation were present about the incision.

Necropsy.—At the post-mortem examination no peritonitis was found. The strangulated loop of small intestine was recognised three feet six inches from the ileo-cæcal valve. It was deeply congested, smooth, and shining. The circulation had returned to the anæmic areas of constriction noted at the operation. On opening the bowel the mucous lining of the strangulated loop showed marked inflammatory infiltration. Corresponding to the seat of constriction at the point of exit there was present an almost complete ring of small, superficial, irregularly shaped ulcers. The mucous membrane of the intestines and stomach was otherwise normal in appearance. A Meckel's diverticulum was present two feet nine inches from the ileo-cæcal valve—i.e., nine inches below the strangulated loop of intestine. This process was just over one inch in length and communicated with the lumen of the bowel by an opening of the size of a threepenny-piece. From the apex of the diverticulum a thin fibrous band passed upwards and to the right, crossing anterior to the ileum five inches distal to the root of the diverticulum. This band was two inches long and gained attachment to the mesentery one and a half inches from its free border. The small intestine at the point of origin of the diverticulum was drawn towards the mesenteric attachment of the band. Thus a vertically placed loop of ileum was formed, the proximal end of which corresponded with the root of the diverticulum, while its distal extremity was the portion of small intestine lying behind the fibrous band. The band in question as it crossed the ileum lay in contact with its anterior surface. No adhesion existed between it and the underlying intestine. The small gut distal to the band was empty and collapsed, as also were the cæcum and large intestine. The bowel above the band was slightly distended. The tips of three fingers could be inserted under the band.

CASE 2.—The patient was a male, five weeks old. He

was breast-fed and had had good health up to the present illness. Late one evening, after 18 hours' constipation, he was suddenly seized with severe pain, causing violent attacks of screaming, and vomiting occurred. The mother noticed that the right side of the scrotum was swollen and hard a few minutes after the onset of the symptoms. The family medical attendant was called in and gentle taxis failed to reduce the rupture. Cold compresses were applied throughout the night and the legs and pelvis were elevated. Vomiting and pain continued at intervals and the breast was refused. Mr. Dun saw the child 12 hours after the appearance of the symptoms; the bowels had not moved and no flatus had been passed during the night. A large irreducible right scrotal hernia was present; the testicle lay behind the lower part. There was no phimosis. Chloroform was administered. Gentle attempts at reduction failed to make any impression on the size of the hernia so operation was immediately undertaken. On exposing the sac the constriction was found to be caused by the narrowness of its neck. The sac was opened and its neck was divided; it was of the infantile variety, a complete tunica vaginalis testis being present. No fluid was present in the sac. It contained a loop of small intestine, bright red in colour. The seat of the constriction was examined, the bowel was returned to the abdominal cavity, and a radical cure was carried out. The subsequent progress was satisfactory. No vomiting occurred after the operation and the bowels moved freely in six hours. The stitches were removed on the sixth day and recovery was uninterrupted.

CASE 3.—The patient was a male, four months old. This infant had been weakly since birth; he was artificially fed but had suffered from no gastro-intestinal disturbance. There had been no cough. When three weeks old an inguinal hernia appeared on the right side and a truss was applied a week later. At the sixth week a left inguinal hernia made its appearance and a double truss was applied which had since been worn regularly. At the age of three and a half months the infant was taken to the Children's Infirmary on account of phimosis; this was well marked and circumcision was recommended. The truss worn was well fitting and controlled the hernia satisfactorily; during the 12 weeks it had been in use the hernia on the right side had not been down while the left hernia had appeared twice. The infant was circumcised and all went well until the fifteenth day after the operation when the child was suddenly seized with severe pain. The hernia on the right side was found to have come down under the truss. The truss was removed but the mother could not get the hernia back. 18 hours later the child was taken to the hospital. Vomiting had occurred frequently during the night; there had been little pain since the onset of symptoms but nothing had passed by the bowels. There was present a large scrotal inguinal hernia on the right side which was tense and irreducible. The child was collapsed. Operation was performed. The constriction was found at the internal abdominal ring. The sac, of infantile type, contained the cæcum, vermiform appendix, and about one inch of the ileum above the ileo-cæcal valve. The condition of the bowel was good; the appendix was ligatured and removed, the intestine was replaced in the abdomen, and a radical cure was performed. The bowels moved twice in the 12 hours following the operation and there was no vomiting. The healing of the wound ran an aseptic course. The stitches were removed on the seventh day. On the fourth day after the operation diarrhœa set in; from being slight at first this gradually increased in severity and, in spite of dietetic and therapeutic treatment, the child died exhausted 19 days after the operation.

Necropsy.—At the post-mortem examination no peritonitis was found. There was slight congestion of the cæcum externally. On opening this portion of the intestine numerous small ulcers of the mucous coat were seen; they were present at the ileo-cæcal valve but did not extend into the small intestine. The mucous lining of the colon was unaffected.

CASE 4.—The patient was a male, 12 months old, who was artificially fed. A left inguinal hernia had been present since the age of six weeks. A truss had been worn regularly but had not completely controlled the rupture. For a few weeks before the present illness the child had suffered from a bad cough and the hernia came down frequently under the truss and was more difficult to reduce than formerly. The bowels had been acting regularly. Ten hours before Mr. Dun saw the child the hernia was noticed to be down and could not be reduced. When seen vomiting was frequent and neither fæces nor flatus had been passed. The left scrotum was œdematous and red and contained an irreducible hernia. No phimosis was present. There was bronchitis in both lungs. Under chloroform the hernia was still irreducible. The operation showed a sac of infantile type, containing a portion of small intestine in good condition. The constriction was at the internal ring outside the sac. A radical cure was performed and recovery was uninterrupted.

Remarks by Mr. DUN.—Strangulated inguinal hernia is comparatively rare in childhood. The above four examples are of particular interest on account of their occurrence during the first years of life. The adhesion of a Meckel's diverticulum to a distal portion of the mesentery may, I think, be fairly considered as the causal factor in producing the hernia in Case 1. Although insufficient to cause obstruction, it undoubtedly led to a certain amount of abnormal fixation of the intestine in its neighbourhood. Thus some interference with peristalsis probably occurred leading to increased muscular contraction in the bowel. This additional peristaltic effort, put forth to overcome increased resistance, may have led to the forcing of the loop of ileum, only nine inches above the adhesion, into a patent funicular process. The occasional vomiting which was present from birth may have been due to the same cause.

As regards causation, in each of these cases the important predisposing factor, a patent funicular process, existed. As an exciting cause in Case 1 increased peristalsis the result of distal resistance by an adherent Meckel's diverticulum was the probable factor. In Case 2 constipation of short duration was the only apparent cause. In Case 3 marked phimosis was present. In Case 4 severe cough was the most obvious cause of strangulation in a previously existing hernia. Dealing with treatment the probable failure of taxis, even when immediately resorted to, is exemplified. The importance of early operation cannot be too strongly urged owing, firstly, to the rapidity with which collapse ensues and, secondly, on account of the constantly increasing danger of ulceration of mucous membrane subsequently occurring in intestine the external appearance of which would seem to warrant its return to the abdominal cavity at the time of operation. Collapse was present in Cases 1 and 3, in which strangulation had been present 72 and 18 hours respectively, while in Cases 2 and 4 of 12 and 10 hours' duration it was absent. Ulceration of the mucous membrane occurred in Cases 1 and 3 and was probably the cause of death in both. The fatal issue in Case 1 was rapid and apparently due to septic absorption from the ulcerated surface; in Case 3 it resulted from exhaustion following upon chronic diarrhœa.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

The Glomerular Lesions of Diffuse Nephritis.—Malignant Growths.—Primary Sarcoma of the Liver in an Infant.—Sarcoma of the Alimentary Canal.—Leukæmia.

A MEETING of this society was held on May 17th, Dr. P. H. PYE-SMITH being in the chair.

Dr. W. P. HERRINGHAM and Dr. J. H. THURSFIELD communicated a paper on the Glomerular Lesions of Diffuse Parenchymatous Nephritis. They said that much difference of opinion existed as to the exact significance of the microscopic appearances found in the glomeruli in this disease. Hitherto the appearances had been supposed to represent fibrous tissue but the great difficulty in accepting this view lay in the fact that epithelial cells, the proliferation of which was the striking feature of the disease, did not elsewhere give rise to fibrous tissue. The microscopic appearances were described in detail and illustrated by a series of lantern slides, the contention being that a continuous and connected process could be traced from the first proliferation of the epithelial cells up to the production of the degenerate or functionless glomerulus. The causation of the degeneration was attributed to chemical or bacterial poisons rather than to any mechanical force.

Mr. C. E. WALKER read a paper on the Cytology of Malignant

Growths, dealing with the recent work done upon malignant growths by Professor J. B. Farmer, Mr. J. E. S. Moore, and himself. After a description of the somatic and heterotype mitoses and of the occurrence of the latter in malignant growths Mr. Walker went on to say that though the tissue forming malignant growths resembled normal reproductive tissue in many other respects than in the presence of the heterotype and homotype division figures, there were, particularly in the case of animals, some important points of difference. This resemblance and difference had been emphasised by the application of the term "gametoid" to the mature cancer cells to distinguish them from the gametic cells which arose from gametogenic tissue. Up to the present time the collaborators had seen nothing that could be seriously interpreted as evidence of fusion or fertilisation of the cells forming malignant growths. The occurrence of reduced cells naturally suggested the possibility, or perhaps probability, of fusion, and to them it did so particularly in view of what happened in the case of certain ferns observed by Professor Farmer, Mr. Moore, and Miss Digby more than a year ago. Here the application of suitable stimuli to prothallial tissue caused adjacent cells to fuse, fertilisation and the production of the succeeding generation taking place in some cases without any definite sexual elements appearing. The collaborators regarded the alleged cases of nuclear fusion in malignant growths as too doubtful or at any rate too few to provide a sound basis for any generalisation. Mr. Walker said that his collaborators and he attached great importance to the occurrence of the heterotype mitosis and the consequent production of reduced tissue as being intimately connected with the malignant characters of the growths in which it was found. Since they, on Dec. 10th last, recorded its presence in malignant growths occurring in man Dr. E. F. Bashford and Dr. J. A. Murray had recorded its presence in malignant tumours in many other vertebrates as well as in man. The observations of the heterotype mitosis had been found of great practical value in some cases as an aid to diagnosis in doubtful cases of new growths. Though cytological methods of fixation and preparation were necessary if mitotic figures were to be observed this involved no loss of time. As a proof of this Mr. Walker referred to a slide of epithelioma which was among those under the microscopes. It was from a case operated upon that afternoon and had been fixed in acetic acid and alcohol, imbedded in paraffin, cut, stained to show nuclear divisions, and mounted in Canada balsam within four hours.

Dr. E. P. BAUMANN and Dr. J. G. FORBES described a case of Primary Sarcoma of the Liver in an Infant. The patient, a male infant, aged 11 months, was admitted to the Hospital for Sick Children, Great Ormond-street. He had suffered for some four weeks from vomiting, loss of flesh, and enlargement of the abdomen. On admission he was very pale but not jaundiced. The liver was enormously enlarged, forming an elastic, semi-fluctuating mass. Death occurred a week after admission. At the necropsy several massive deposits of friable new growth were found occupying practically the whole of the liver. Extensive hæmorrhages had occurred into the deposits. No secondary deposits were found in any other tissues or organs. Microscopical examination showed the growth to be of the nature of a round- and spindle-celled sarcoma. Some of the areas of hæmorrhage appeared as blood spaces lined by proliferating endothelial cells. Here the growth had the appearance rather of an angiosarcoma. Elsewhere in the middle of the growth proliferation of the endothelial cells of the capillaries was to be seen merging into the type of cell constituting the sarcoma and affording a possible clue to its origin.

Mr. E. M. CORNER and Mr. H. A. T. FAIRBANK made a communication on the Sarcomata of the Alimentary Canal. Mention was first made of a case of intussusception which complicated a sarcoma of the colon in a boy, nine years of age. This case was the eleventh recorded instance of sarcoma of the colon and the fifth in which a sarcoma had caused the formation of an intussusception. The tumour was a round-celled sarcoma. The paper then dealt with sarcomata of the alimentary tract in general. 174 instances were collected. In these, males were affected twice as often as females. Those of the œsophagus and rectum seemed mainly to occur at the later periods of life; those of the ileo-cæcal region and the colon during the first decade. The œsophagus was affected 14 times, the stomach 53 times, the ileo-cæcal region 65, the colon 11, and the rectum seven times. The round-celled variety was by far the most common. The prognosis of early operation seemed very good, six cases being free from recurrence from one to nine years afterwards.

Dr. F. PARKES WEBER read an account of a case of Leukanæmia with great Hyperplasia of the Spleen and Prevertebral Hæmolymph Glands and with Increase of Connective Tissue in the Bone Marrow. The patient, a man, aged 58 years, died after about a year's illness with progressive asthenia and symptoms somewhat resembling pernicious anæmia, though he had great enlargement of the spleen and the liver. The main features of the case could be summed up as follows: (1) progressive waxy pallor and asthenia with maintenance of subcutaneous fat; (2) changes in the red blood corpuscles rather similar to, but not so extreme as, those met with in true pernicious anæmia; (3) absence of true leukæmic changes in the blood but presence of slight myelocythæmia and of inverted proportion of lymphocytes to polymorphonuclears; (4) relative deficiency of pigment in the urine; (5) changes found after death in the hæmopoietic tissues similar to those of "mixed-cell" leukæmia or pseudo-leukæmia; (6) abnormally firm consistence and fibrous tissue increase in the bone marrow of the shaft of a long bone; (7) absence of enlargement of the ordinary lymph glands but hyperplasia of the spleen (hæmal gland) and hæmolymph glands; and (8) absence of any reaction for free iron in the spleen, the liver, or the kidneys such as occurred in pernicious anæmia. Similar cases had doubtless been described as pernicious anæmia merging or becoming transformed into leukæmia.

At the close of the ordinary meeting the annual general meeting for the election of officers and council was held. A vote of thanks was passed to Sir Samuel Wilks who retired from the office of trustee. The members nominated by the council to hold office during the ensuing year were duly elected.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

Quantitative and Qualitative Leucocyte Observations in Various Forms of Insanity.—Social Causes of Alcoholism.—Combined Spinal Degeneration with Unusual Mental Symptoms.

THE quarterly general meeting of this society was held on May 18th at the Langham Hotel, Portland Place, London, W., under the presidency of Dr. ERNEST W. WHITE.

The report of a committee of the association which was appointed to investigate further the remarkable case of multiple consciousness in a girl brought before the society by Dr. Albert Wilson last year was read by the secretary to the committee.

Dr. CHARLES A. MERCIER, a member of the committee, moved the adoption of the report and emphasised that part of it which recommended its publication in full in the *Journal of Mental Science*. He paid a high tribute to Dr. Wilson for his laborious collation of the details and the lucid presentment of them.

Mr. JAMES STEWART (Clifton) seconded the motion for adoption and it was unanimously carried.

Dr. L. C. BRUCE read a paper by himself and Dr. A. S. M. PEEBLES (Perth Asylum), entitled "Quantitative and Qualitative Leucocyte Observations in Various Forms of Insanity." The contribution showed exhaustive research and contained several significant and suggestive points. One of them was that the large lymphocyte which, according to Hutchison, is not usual in normal blood in any considerable quantity, was commonly present in many cases of pure mental disorder. Moreover, if a person were immunised against a bacterial toxin it was found that those cells became definitely phagocytic. The eosinophile cells, ordinarily about 2 or 3 per cent., rose to 50 per cent. in some abnormal mental states.—Dr. ROBERT JONES spoke in flattering terms of the energy shown by Dr. Bruce and Dr. Peebles. He referred to drugs, such as pilocarpine, cinnamate of sodium, and camphor, which increased the lymphocytes in the blood.—Dr. BRUCE, in his reply, said that Dr. Peebles and himself had tried the drugs referred to by Dr. Jones except camphor and found that though they increased the lymphocytes that effect was not noticed in connexion with the polymorphonuclears. The leucocyte investigation had a practical application in the assistance which it gave to a correct prognosis.

Dr. W. C. SULLIVAN (H.M. Prison, Pentonville) read a lengthy contribution entitled "A Statistical Note on the

Social Causes of Alcoholism." He pointed out that the bulk of the social evil wrought by intemperance was due to chronic alcoholic poisoning, not to simple drunkenness. Thus, suicide, crime, insanity, and racial degeneration—in so far as they were caused by drink—depended on chronic alcoholism. But the sort of drinking which led to casual drunkenness might be entirely different from that which led to chronic intoxication. Drunkenness in its simple form was the result, mainly, of convivial drinking, of the drinking that went with conditions of relative luxury; it was generally intermittent and did not tend much towards chronic alcoholism. It was quite different with the sort of drinking which might be termed industrial drinking, the drinking that went with bad hygienic conditions, overcrowding, insufficient or unattractive food, overwork, and so on. It was characteristic of this form of drinking that it went on during working hours and that it was more or less in substitution of food. It might not cause drunkenness except indirectly, but it inevitably led to chronic alcoholism. The difference between these two sorts of drinking explained the fact that the distribution of drunkenness in England differed widely from the distribution of alcoholism, alcoholic suicide, crime, and insanity. This contrast was demonstrated by means of coloured maps which showed that the counties ranking highest in the list of drunkenness ranked low in alcoholism. The same result was brought out more clearly by comparing drunkenness and alcoholism in large composite areas representing special industrial conditions. Thus it was shown that the prosperous mining districts, where there was little industrial but much convivial drinking, were much more drunken but much less alcoholic than any other part of the country—they were even a little less alcoholic than the agricultural counties but nearly five times as drunken. In the manufacturing towns, where the industrial conditions were less favourable, there was much alcoholism; and in the seaports, where these conditions were at their worst, alcoholism, alcoholic suicide, and crime reached their highest development. In these towns the alcoholism was accompanied by much drunkenness, though the drunkenness was not the cause of the alcoholism but both were effects of a common cause in the industrial conditions. Statistics of drunkenness were therefore of no value as a measure of alcoholism. From a social point of view convivial drunkenness was at once much less important and much easier to check than was industrial alcoholism. The remedy for the latter form of drinking was to raise the standard of living and something might also be done by restricting the facilities for obtaining alcohol during working hours by providing hygienic substitutes and by sane and temperate teaching as to the proper use and limitations of alcoholic liquors.—Mr. STEWART, who said he had been interested in the subject for 25 years, urged that great care should be used in differentiating between chronic alcoholism, drunkenness, and inebriety, and Dr. Sullivan, in one part of his paper, had referred to the causes of inebriety instead of the causes of drunkenness. The consequence of this confusion of terms was that a large number of drunken persons were looked upon as cases of disease and when their vicious habits were abandoned it was considered that they had been cured of the disease of inebriety. That somewhat accounted for the vaunted efficacy of "gold cures," "atropine cures," and the like. Dr. Sullivan's comparison between the amount of chronic alcoholism in certain districts and the number of attempts at suicide was of great value because many persons would glibly declare that all who suffered from chronic alcoholism had brain disease, a statement he dissented from. Only the presence of brain disease would justify the term "inebriety." Dr. Sullivan's classification into "luxury drinking" and "misery drinking" was very happy and would help to account for many cases which came under notice. In a series of 200 cases he found 134 had been due to "misery drinking." Mr. Stewart proceeded to give his reasons to account for the large number of such cases among women and concluded by pointing out the fallacy underlying much of the motive for indulging in the habit.—Dr. C. A. MERCIER was not prepared to discuss the paper at once but thought that Dr. Sullivan's classifications were well worthy of consideration and that they must profoundly affect a person's manner of regarding the subject.—Mr. H. F. HAYES NEWINGTON pointed out that in discussing the subject the social and psychological aspects overshadowed a very important point which was often quite forgotten—namely, the poor quality of the liquid consumed under various names. The question could not be adequately discussed without that being taken into consideration. It was of little use to speak of Parliamentary control or the reduction of licences while the distiller was allowed to continue to poison His Majesty's subjects. A large proportion of distillers used scarcely any malt and much of the whisky consumed was cyder and spirit. It had recently been stated that there was no test for brandy.—Dr. DAVID YELLOWLEES said he appreciated the distinction between convivial drinking and misery drinking but it by no means covered the ground. A large class of drunkards needed neither the excuses of conviviality nor of misery but drank because they liked to. He asked what "chronic alcoholism" meant. His own feeling was that it meant degeneration of the whole organism, brain included, by alcohol, but it was obviously not the meaning of Dr. Sullivan. He pleaded for a clear definition of the terms used in speaking of alcoholic indulgence.—Dr. G. F. BLANDFORD and Dr. R. W. BRANTHWAITE continued the debate, the latter stating that though he had an experience of 22 years in that department he did not yet know which was a drunkard and which was a chronic alcoholic.—Dr. GEORGE H. SAVAGE thought knowledge on the subject was largely increased by statistics and heartily seconded the remarks of Mr. Hayes Newington. The cases which came under the notice of the alienist were the recurrent ones—cases of recurrent mania or recurrent mental disorder. Those people did not drink because they were miserable but because it was the stage of the mental disorder through which they were passing.—Dr. ROBERT JONES said the view of many was that the chronic alcoholic or drunken person succumbed last in the brain, whereas in alcoholic insanity the brain suffered first. It was a case of *locus resistentiæ minoris*.—Dr. SULLIVAN, in reply, said he regarded as inebriety the act and tendency, whereas chronic alcoholism was the effect. During a large experience at Liverpool he knew of only three "blacklisters" in whose history there had not been one or more attempts at suicide.

Dr. J. KENNEDY WILL read notes on a case of Combined Spinal Degeneration with Unusual Mental Symptoms and illustrated the paper by means of microscopic sections of the cord.—Dr. W. B. STODDART discussed the paper.—The company afterwards dined at the Café Monico.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases and Specimens.

A meeting of this society was held on May 18th, Professor JOHN CHIENE, the President, being in the chair.

Dr. T. M. BURN-MURDOCH exhibited the following cases: 1. A child, aged ten months, who was admitted to hospital suffering from Infantile Scurvy. This was a very unusual condition and, in fact, was the first case of the kind which had been seen by any of the medical officers of the institution. The child had been fed for nine months on sterilised milk obtained from the Leith corporation depot. The legs were painful when moved and the child lay flaccid and limp with the legs everted. On admission there was a brawny swelling at the lower part of the left femur and at present there was a similarly situated mass on the right thigh. The left arm was also much affected and was kept constantly straight out from the body, there being a subperiosteal hæmorrhage over the humerus. The bowels were constipated and the motions were streaked with blood. The vaccination scars became red though the operation had been performed six months previously. There were traces of blood in the urine and the gums were slightly congested though not bleeding. 2. A girl with a well-defined Rheumatic History and with a Cardiac Lesion who showed well the presence of rheumatic nodules over the knuckles, wrists, ankles, tendons, spine, &c. 3. A female child, aged six years, with a marked Ataxic Gait. She was first admitted to the hospital in July, 1902, suffering from inability to walk and with squint, which conditions had persisted for two years. At that time she was very nervous and was constantly falling, her speech was slow, and there were choreic movements of the hands, though her intelligence was up to the normal standard. There was improvement after this for a time and the child attended school. Her present-

condition showed internal strabismus, slurred speech, constant muscular fibrillary twitchings, and no dragging of the feet; the condition was probably due to a tumour in the cerebellar tissue. 4. A boy, admitted for very Intense Paroxysmal Headache. There were chronic fibrosis of the left lung and double optic neuritis. These were the only symptoms and the case was probably one of cerebral tumour.

Mr. HAROLD J. STILES showed:—1. A child with Congenital Elevation of the Scapula. The left shoulder was seen to be deformed and its movement was interfered with; the shoulder was higher on the left side and not so broad as the right. Abduction of the arm from the shoulder was rendered impossible on account of a mass of bone which grew from the upper border of the scapula and which became wedged against the transverse processes of the vertebræ. The treatment was to divide this bony mass from its attachment to the scapula. 2. A boy, aged 11 years, after Cuneiform Osteotomy of the Femur for Coxa Vara. The lameness came on when he was four years of age with little or no pain and free movement of the right hip except that of abduction, and the limb grew shorter. The pelvis was tilted on the deformed side and there was fixed adduction of the hip to an angle of 35°; the trochanter on the right side was elevated one and a half inches. There were no history of disease and no wasting of the limb. All the signs were present of a simple bending down of the neck of the femur. At the operation a wedge of bone was removed from below the root of the trochanter and the limb was fixed in an abducted position after division of the adductor muscles for three months. At the present time there was no tilting of the anterior superior spine. 3. A girl, aged nine years, from Shetland, after an operation for an unusually large Hydatid Cyst of the Liver. The heart was displaced and the tumour reached down an inch below the umbilicus. It resembled a hydronephrosis but the thrill was very well marked and the hydatid fremitus was present. A vertical incision was made through the middle of the right rectus muscle and on opening the cyst about a gallon of fluid escaped. The cyst wall at once began to separate from the liver and was extracted in two pieces. There was one daughter cyst of the size of a bantam's egg. The opening in the liver was stitched to the peritoneum and a large tube was introduced. 4. A child, aged two and a half years, after excision of a large Sarcoma of the Left Kidney. The operation was performed nearly four months ago. For three months previous to this the swelling had been noticed and the child made no complaint of pain. The tumour extended one inch below and one inch to the left of the umbilicus. A long incision was made below the left costal margins from the erector spinæ to the front dividing the peritoneum and the tumour was shelled out. Some enlarged retroperitoneal glands were felt but at present there was no obvious recurrence of the disease. 5. A child after Arthrodesis of the Ankle and Knee for Infantile Paralysis. The paralysis was very severe, involving at first both lower extremities as well as the right arm. Recovery, however, was almost complete with the exception of the right leg, of which only the psoas muscle retained its activity. The ankle was fixed by a long nail driven right up into the tibia and now both ankle and knee joints were still. 6. A girl after a second operation for Ununited Fracture of the Humerus. At the first operation an aluminium plate fixed by four screws was inserted, but as the wound was septic union did not take place between the broken ends of the bone. Four weeks ago the same operation was again performed as the wound was then aseptic. There was still a small sinus present but a good deal of new bone had been thrown out.

Dr. JOHN THOMSON exhibited:—1. A case of Congenital Cerebellar Ataxia of the type described by Dr. F. E. Batten. The boy was aged four and a half years and presented marked bilateral nystagmus of a conjugate character and lateral head nodding. The latter conditions had been present since early infancy. A year ago the ataxic gait was well marked; he spread his legs apart in walking and frequently fell backwards. It was not a hereditary condition. The knee-jerks as well as the other reflexes and organic reflexes were normal. The child was improving to a slight extent. 2. A girl, eight years of age, with a peculiar Congenital Deformity of the frontal, nasal, and superior maxillary bones. The patient was an imbecile child of a mentally defective woman. The frontal bone was divided into two by a wide sulcus and the nose was very broad and possessed a wide median groove. The eyes were very far apart; the upper jaw was atrophied and the palate was dwarfed, as was especially the case with the premaxillary bone. The case was one of an attempt at the double formation of a head above the nose.

Mr. STILES and Dr. THOMSON exhibited three cases of Congenital Hypertrophy of the Pylorus after Operation. The first case was operated upon two years ago, when he was only four and a half weeks old and weighed a little over six pounds. He had vomited all his food during the preceding fortnight and there was marked constipation. The emesis became more and more severe and the stomach became greatly distended. Loreta's operation of forcibly stretching the pylorus was performed. This was a simple procedure, the stomach being opened near the pylorus and a pair of forceps being passed into the pyloric orifice and opened up, though Mr. Stiles had found a three-bladed tracheal dilator more useful. In this case the vomiting ceased at once and the child rapidly improved. The boy was now two years old. The second case was that of a child now 13½ months old. The operation was performed on June 16th, 1903, when the infant was 10½ weeks old. When five weeks old the weight was ten pounds. At this period, however, vomiting, constipation, and emaciation commenced and when the operation was performed the child weighed only seven pounds. Loreta's operation as above described was performed and for two weeks the vomiting ceased. It then returned, however, and as the child was obviously seriously ill a second operation was accomplished three weeks after the first. A posterior gastro-enterostomy was performed and at once the child commenced to improve. In future Mr. Stiles would always perform the latter operation for this condition as it simplified the after-treatment very much and the child could be fed at once. In Loreta's operation to be effectual the peritoneal coat must be ruptured by stretching and then this had to be sutured. They could never tell how much fibrous tissue might be the result of such procedure. The third case was that of a child now three and a half months old. The operation of posterior gastro-enterostomy was performed on April 1st, 1904, when the child weighed six pounds. At the present moment the weight was ten pounds. Mr. Stiles uttered a word of warning against the use of carbolic poultices in the case of young children.

Dr. J. S. FOWLER showed: 1. A case of Dwarfed Growth in a child eight and a half years of age, exhibiting some of the symptoms of cretinism and probably due to thyroid inadequacy (myxœdema fruste). The child was 37 inches high or 10 or 11 inches shorter than he ought to have been, or in other words, his height corresponded to that of a child three and a half years of age. All the members of his family were short of stature, probably the result of rickets. The boy did not walk until four years of age and since then he had not grown in height. The face was heavy and swollen in appearance, as was also the neck, and the abdomen was large. Skiagrams showed that the ossification of the bones corresponded to that of a child of the age of three years. 2. A case of General Spastic Rigidity with a Low Grade of Idiocy and very Severe Rachitic Deformity. The child was now about five years of age; the birth was natural and three days subsequently fits began to occur. Development had never proceeded; the child cried constantly, sucked the tongue, and rolled the head. These were some of the symptoms of microcephalus, but Dr. Fowler did not think this was a pure case of that affection but rather that there had been an extensive cortical hæmorrhage which had interfered with the growth of the child's brain.

Dr. DRUMMOND exhibited a case of Microcephalus. The child was nine months old and at the age of three months fits commenced. They were very numerous, eight or nine per diem. Under the action of bromide of potassium and chloral the fits had nearly ceased. The head was of the size of that of a child aged six months and the anterior fontanelle had completely closed.

Mr. E. W. SCOTT CARMICHAEL showed a boy with a Congenital Malformation of the Bones of the Right Forearm. The third metacarpal bone with the corresponding phalanges were absent from the right hand.

The following card specimens and photographs were also shown:—

Dr. BURN-MURDOCH: Photographs of a remarkably interesting case of deformity, Double Congenital Dislocation of the Hip, and a rare condition of both knees, the External Condyles of the Femora being Undeveloped and the Patellæ being Absent.

Mr. STILES: (1) A small Round-celled Sarcoma of the

Upper Half of the Femur: Disarticulation at the Hip: (2) a large Hydrocephalic Head; (3) a Hydatid Cyst of the Liver; (4) a Gold Brooch removed from the Œsophagus of an Infant by Median Œsophagotomy; and (5) a large Sarcoma of the Kidney and microscopical specimen.

Dr. FOWLER: Specimens and drawings of Blood from a Mixed-celled Leucocythæmia in a child—excess of large lymphocytes and myelocytes.

Mr. SCOTT CARMICHAEL: (1) Congenital Absence of the First and Second Parts of the Rectum, with sac-like dilatation of the descending and sigmoid colon; (2) Necrosis of the Os Calcis, the result of a septic wound of the foot; and (3) Recent Ileo colic Intussusception.

Dr. THOMSON: (1) Bones of the Lower Limb from a case of Infantile Scurvy (Barlow's Disease); (2) Diplococci from a case of Posterior Basic Meningitis; and (3) photographs and drawing of Rheumatic Nodules in various positions.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on May 6th, Dr. Seymour Taylor, the President, being in the chair.—Mr. L. A. Bidwell read a paper on Chronic Pancreatitis. Two types of the malady were described: (1) the interlobular variety, the islands of Langerhans being unaffected except in the latest stage; and (2) inter-acinar pancreatitis in which there were cell infiltration and fibrous tissue formation within the lobules and inside the islands of Langerhans. The second type was the less frequent variety and was not commonly associated with duct obstruction but was accompanied by glycosuria. The interlobular variety was met with in association with obstruction of the pancreatic duct by pancreatic calculi, biliary calculi impacted in the ampulla of Vater, cancer of the bile papilla, or stenosis of the opening by inflammatory changes originating either in the bile duct or in the duodenum. In cases of impacted gall-stone there was a considerable amount of cholangitis set up which, owing to the communication between the bile and pancreatic ducts, spread to the latter duct. Thereafter, there being no outlet for the inflammatory products, the substance of the pancreas became involved in the inflammatory changes and chronic interstitial pancreatitis resulted. This condition might subside completely but on the other hand it might pass on to abscess formation with secondary suppuration of lymphatic glands. The symptoms resembled those exhibited by the slighter cases of subacute pancreatitis. The onset was usually gradual but an acute attack of pain in the epigastrium resembling that of gall-stone colic and followed by jaundice might usher in the attack. Loss of flesh and strength were prominent features. The emaciation and weakness steadily increased and a fatal result if no operation were undertaken was almost certain. These cases had to be distinguished from gall-stones, cancer of the head of the pancreas, cancer of the liver and ducts, and cancer of the stomach, and the points of differential diagnosis were discussed. The treatment recommended was laparotomy. A certain number of cases had recovered after simple palpation of the pancreas, but many surgeons, amongst whom was Mr. A. W. Mayo Robson, advised that the gall-bladder should be drained in all cases. Removal of any stone found in the ampulla of Vater was also necessary. The narration of four cases of chronic pancreatitis which had come under Mr. Bidwell's own observation concluded the paper.—The President referred to the diagnostic value of rigors in cases of jaundice due to gall-stone obstruction.—Mr. W. McAdam Eccles had had the opportunity of observing two of the cases referred to by Mr. Bidwell. A point of great interest was the occurrence of clear unclouded mucus in the gall-bladder. In neither case was there any sign of calculi in the biliary ducts. He felt sure that in some instances in which a patient suffered from what appeared to be biliary colic and showed evidence of sugar in the urine the pancreas was the seat of the real lesion.—Mr. E. Percy Paton considered that in two of Mr. Bidwell's cases there was a good deal of uncertainty as to the diagnosis and it seemed to him that in both of the cases the true nature of the disease might have been carcinoma.—Mr. Bidwell replied.—Mr. Eccles read a paper on Lessons from a Year's Fatalities. In all, 19 cases were referred to and in all death was due to lesions of the head or trunk, a fact which illustrated one of the advances of modern surgery—namely, that operations on the extremities were fraught with but little danger provided that sepsis was excluded. No less than 14 of the fatalities were due to abdominal lesions. Of the other five cases one was due to fracture of the base of the skull, one to hæmorrhage into the mid-dorsal region of the spinal cord, and one to fracture of the ribs with injury to the heart wall. This last case was specially interesting. The patient, a boy, aged 14 years, was crushed between two vans. On admission he was collapsed, livid, with very laboured respiration and much frothing of mucus in the larynx and mouth. Examination showed fracture and depression of the fourth, fifth, and sixth left rib cartilages. A grave prognosis was given but the boy made steady improvement. 16 days after the accident, while sitting up in bed, he died suddenly. Post-mortem examination revealed, in addition to the fractures above noted, bulging and perforation of the left ventricular wall in a position immediately under the fractured fifth rib. There had apparently been a partial laceration of the ventricle and the wall had gradually thinned and eventually ruptured, causing the fatal issue. The other two fatalities were due to carcinoma of the mammary gland and in both pulmonary infection was the immediate cause of death. Of the 14 abdominal cases death was due to abdominal tubercle, gastric hæmorrhage, hæmorrhage from the hepatic artery in the floor of a duodenal ulcer, carcinoma of the sigmoid flexure, internal strangulation by a band, strangulated femoral hernia, and multiple hepatic abscesses in one instance each, to intussusception in three cases, and to lesions of the vermiform appendix in four cases. A study of these fatalities from appendicitis tended to confirm Mr. Eccles in his view that in all cases in which there was strong suspicion that the appendix had been inflamed it was safer to remove it than to wait for subsequent attacks, any one of which might prove disastrous.—Mr. Paton endorsed the opinion expressed by Mr. Eccles as to the advisability of removing the appendix after one clear attack of inflammation of that organ. He had seen most satisfactory results from operation in tuberculous peritonitis similar to the case quoted, in which there had been large masses in the abdomen, together with very little peritoneal effusion.—Mr. F. G. Lloyd was unable to agree with Mr. Eccles's conclusion as to the necessity for operation in all cases of appendicitis after a first attack.

BRITISH LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL ASSOCIATION.—A meeting of this association was held on May 13th, Mr. John Bark, the President, being in the chair.—The President said that the association had sustained a great loss through the death of Sir Philip C. Smyly and it was resolved that a letter of condolence should be sent to Lady Smyly and the family.—A letter was read from the Laryngological Society of London inviting coöperation in the appropriate celebration of the 100th birthday in March, 1905, of the inventor of the laryngoscope, Señor Manuel Garcia.—It was resolved that a special council meeting should be held to consider this matter.—Dr. W. H. Kelson showed a case of Post-nasal Casts. The patient, a man, aged 36 years, had for years suffered from post-nasal catarrh. About once a week a tough fibrinous disc of the size of a shilling formed in the region of Luschka's tonsil. It became loose after three or four days and the patient was able to expectorate it. Scraping, galvanocautery, and caustics had been tried but the disc reappeared.—Dr. J. Dundas Grant said that this case resembled Thornwald's disease. He advised trans-illumination, a bacteriological examination of the crusts, and the use of his new sniffing nasal douche.—Dr. V. H. Wyatt Wingrave said that as all lymphoid structures had disappeared he looked upon the case as one of atrophic pharyngitis. He advised diminution of the enlarged turbinals.—The President advised the trial of von Troltsch's method of gargling and washing out the naso-pharynx.—Dr. Kelson also showed a case of Epithelioma of the Larynx and Œsophagus in a single woman, aged 31 years.—The President said that last year he had shown a case of epithelioma in the œsophagus in a still younger instance—namely, a woman, aged 23 years.—Mr. Mayo Collier read the notes of a case of Acute Abscess of the Thyroid Body after Influenza. The patient was admitted into the North-West London Hospital on April 18th with a large, pulsating swelling on the left side of the neck. The trachea and attached structures were all displaced to the right side. Dyspnœa and cyanosis were present and the expectoration was blood-stained. An ice-bag was applied. An operation was performed by Mr.

J. Jackson Clarke and Mr. G. Templeton. An incision about three inches long was made in the middle line and the tumour was partially isolated. There was severe hæmorrhage from engorged veins during this stage of the operation and the patient began to show signs of asphyxia. The trachea was opened low down in the neck and a tube was introduced. Artificial respiration, injection of strychnine, and ammonia to the nostrils had no effect, the patient never breathing again. At the necropsy it was found that the swelling was limited to the left lobe of the thyroid. When opened it was found to contain a quantity of thick, chocolate-coloured, extremely offensive pus. The swelling was adherent to the carotid sheath. The rings of the trachea showed no signs of atrophy from pressure and both recurrent laryngeal nerves were apparently sound. The heart muscle and valves were normal; the right side was distended with clot. The lungs were very œdematous. The bronchi were filled with frothy fluid. The other organs were apparently normal.—Dr. Dundas Grant mentioned a similar case under his care in which death took place very suddenly.—Dr. J. Lumsden showed a Nasal Dilator for continuous dilatation of the anterior nares in cases of nasal obstruction when due to swelling of the mucous membrane covering the nasal bones. The benefits which he had found to result from the use of it by those who complained of stuffiness in the nose were (1) that it allowed the nose thoroughly to be cleared from discharge by sniffing air backwards; and (2) that it allowed nasal respiration to be carried on comfortably while it was in place. The instrument was made by Messrs. Arnold. It was meant to be worn at night chiefly.—Dr. Andrew Wylie stated that he tried this dilator and had found that it afforded the patient great relief.—Dr. Wyatt Wingrave deprecated the constant stretching of the alæ nasi and advocated the employment of an india-rubber tube.—Dr. W. Jobson Horne spoke favourably of small pieces of cotton-wool tucked up into the recess of the vestibule of the nose.—Dr. J. Sim Wallace, in resuming the adjourned discussion on Mr. Mayo Collier's paper on Latent or Intermittent Nasal Obstruction, said that the nose was not only a respiratory organ but a perspiratory organ also, and if the function of perspiration was interfered with or unduly taxed various deleterious effects were certain to be brought about.—Dr. Wyatt Wingrave maintained that there was an intimate relation between nasal obstruction and the onset of puberty and even between some obstructions of the nose and menstruation.—Dr. L. H. Pegler, Mr. E. Dennis Vinrace, Mr. Fox, and Mr. Barwell also made some remarks.

BRITISH GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held on May 12th, Mr. John W. Taylor, the President, being in the chair.—The President exhibited the following specimens and read notes of the cases. 1. A Loop of Semi-Gangrenous Intestine successfully removed from a patient 77 years of age with its solid undigested contents; it was taken from a hernia in the cicatrix (of an abdominal section performed 23 years previously (a partial hysterectomy for fibroids); the hernia had been strangulated for 24 hours. 2. A Cyst of the Broad Ligament which contained upwards of 30 ounces of fluid successfully enucleated from the vagina.—Dr. Macnaughton-Jones then gave a demonstration of the Method of Moulding Pessaries from the Celluloid Rings recommended by Schultze, pointing out that these rings were lighter and stronger than any others and always retained the shape into which they were moulded.—Dr. Heywood Smith then opened the postponed discussion of Dr. Macnaughton-Jones's paper on the Dangers of Pessaries. He attributed much of the evil of pessary treatment to the mistaken idea that the application of a pessary could cure a retroversion and to the introduction of pessaries without previous correction of any existing displacement; he could not concur in the view that reposition by the sound should be altogether abandoned.—Dr. C. H. F. Routh exhibited the combination of a Hodge pessary with a ring and hollow stem pessary which he had found most useful, especially in curing sterility; he had not experienced any evil results.—Dr. Herbert Snow said that he had come to the conclusion that pessaries should not be applied for versions or flexions but only to relieve pain or to prevent prolapse; the elastic ring pessary would do this and was harmless.—Dr. R. H. Hodgson said that in 20 years' experience he had never seen any evil from a pessary properly introduced and not neglected and he was sorry to hear stem pessaries condemned as in a number of cases he had known them to relieve pain that had been of years' duration.—Mr. E. Stanmore Bishop expressed his entire belief in the lever action of pessaries but said that he thought that in their use a great distinction should be drawn between flexion, version, and prolapse; in flexions he considered that they could do no good and were likely to do harm. The worst cases to deal with were those of procidentia which in his experience was always accompanied by rectocele and cystocele; if operation was declined it became necessary to resort to some form of Pott's pessary, of which he exhibited one introduced in Manchester by Dr. A. Donald, but these all required the use of a belt which was a great objection to them.—The President said that the dangers of the continued use of pessaries seemed to him twofold—namely, (1) the development of pelvic disease either by the rekindling of old inflammation or by infection from the husband, alienated by the presence of the instrument, or by infection directly due to the presence of the pessary; and (2) the effects of stretching, for the pessary not only held up the cervix so that the fundus fell forwards but it also acted injuriously by stretching the sacro-uterine ligaments. He had made extensive trial of celluloid rings but he had not found them satisfactory and, like Dr. Macnaughton-Jones, had reason to prefer the Smith-Hodge or S pessary to the figure of 8 pessary.

SOUTH-WEST LONDON MEDICAL SOCIETY.—A meeting of this society was held on May 11th at Bolingbroke Hospital, Mr. E. F. White, the President, being in the chair.—Dr. E. Furniss Potter read a paper entitled "Some Observations on the Treatment of Adenoids." In reviewing the indications for operation Dr. Potter said that cases might be divided into two classes: (1) those in which the objective signs were so obvious that no one would question the desirability of removal; and (2) those in which the signs and symptoms were comparatively slight, such as when a child was beginning to be deaf or was frequently suffering from colds in the head or spoke with a "nosy" tone of voice. In the daytime the child might not present the appearance of a mouth-breather and when asleep he might not snore and might keep his mouth firmly closed, yet on examination a small quantity of adenoid tissue might be found in the naso-pharynx. In cases where there was any appreciable defect in hearing or where stuffiness in the nose was chronic an operation was indicated. In cases where free intervals alternated with periods of obstruction it was more difficult to decide. As regards the anæsthetic Dr. Potter advised nitrous oxide gas and ether. Under nitrous oxide alone the duration of the anæsthesia was too short. With respect to instruments only two need be mentioned—namely, forceps of various shapes and the curette (Gottstein). The latter was excellent for removing a central clump but was not so suitable where growths were scattered or in close proximity to the Eustachian cartilages. In these cases the forceps were preferable.

Reviews and Notices of Books.

La Maladie du Sommeil: Rapport par la Mission envoyée en Afrique Occidentale Portugaise. (Report of the Commission on Sleeping Sickness in Portuguese West Africa.) By ANNIBAL BETTENCOURT, AYRES KOPKE, GOMES DE REZENDE, and CORREA MENDES. Lisbon: Imprimerie de Libanio da Silva. 1903. With plates. Pp. 280.

THIS report was presented to the Minister of the Marine and of the Colonies by the members of the commission sent to investigate the subject of sleeping sickness in Portuguese West Africa. The work commences with a historical survey of this fatal disease which became recognised as a well-characterised morbid entity so far back as the commencement of the last century, when in 1803 Winterbottom showed its existence amongst the slaves in the Bay of Benin. Next, in 1840, a missionary, Clark, described it under the name of "hydropisie narcotique" on the Gold Coast and Sierra Leone. In the third quarter of the century a very accurate description of the symptoms of the disease was given by F. W. Davis, an English naval surgeon, and he mentions that it was held to be brought about by smoking the narcotic weed *dyambe* and by drinking bad

palm wine. It is interesting to note that this authority held that some of the cases might be due to chronic meningitis or encephalitis. The historical references are next brought down to recent times, whilst the geographical range of the disease is indicated.

The mission undertook its labours in order to study sleeping sickness as it affects the province of Angola. It started from Loanda and the extensive itinerary shows what large portions of the country were visited. It would seem that before the year 1871 the malady had not attracted much attention. Although it was disseminated throughout the province, excepting the portion south of the fourteenth degree of latitude, yet its intensity and frequency were not the same for all regions. Loanda was found to be the locality most intensely affected. The malady after the year 1877 made marked strides and during the last three years it has attained the highest degree of intensity.

Regarding the predisposing causes of the disease, the authors find that it takes root mostly where the climatic conditions are hot and moist and where the vegetation is very abundant. It was found to be the least disseminated at Ambaca, where the vegetation was scanty and irrigation was but little carried on, and at Pungo-Andongo, a stony and elevated region, not subjected to great heat and with a smaller amount of humidity. The disease attacks both sexes. The opinion is often held that men rather than women are attacked but this is due to the fact that in the localities where this view is taken the men largely predominate. Again, at Cuanza the opposite holds good, for here the affection would seem to be more prevalent amongst women, this really being due to the fact that the men have emigrated to other regions whilst the women remain there. The truth is that the disease shows no preference for either sex. All ages are attacked; in early infancy and above 60 years it is rare. Adults show the largest number of cases, then adolescents, and next children of from five to ten years of age. The negro race is principally attacked. The affection is far from rare amongst half-castes; amongst whites it is excessively rare—in fact, the authors do not believe that the latter are ever attacked. This, however, as shown by recent cases reported in medical literature, is not the case.

As regards the environment of the inhabitants, the negro lives in cottages, sleeping either on mats or on raised platforms. The cottages are divided into two chambers—the one near the entrance for domestic animals and the other, separated by a bamboo palisade and of but small dimensions, for the whole family. The cottages are kept clean internally but the excreta are thrown on the ground near them. The food is dried fish and a flour of maize or of manioc. Meat is also taken, preferably in a state of putrefaction. Water is drunk which is often of the most insanitary description and alcohol is taken to an excessive degree. Tobacco is much smoked, often from a pipe common to many of the inhabitants.

The authors do not agree with Corre that the disease is hereditary. As regards contagion, in the region investigated this idea is firmly held—it is supposed to be transmitted by the clothes and the saliva. The authors of the report are in agreement with this belief and detail their reasons for so thinking. They next proceed to discuss more minutely the various hypotheses which are held regarding sleeping sickness and they conclude from their investigations that the lymphatic system is affected first and that subsequently occurs the lesion of the nervous system. The latter, however, ensues at a period separated by a long interval from the invasion of the lymphatic system and thus the long duration of the disease is explained.

A review is next made of the various micro-organisms that have been held to cause the disease. Following this is an excellent chapter on the symptomatology which is illustrated by highly characteristic plates and we next find the post-mortem results minutely recorded. Regarding treatment the authors appear to have tried many remedies; they recommend salicylate of sodium for the febrile attacks. Arsenic has a certain value when given with quinine, kola, and cocoa. Where the blood contained the filaria perstans oil of male fern was prescribed but without any effect. Neither lumbar puncture nor the injection of a 1 per cent. solution of lysol into the subarachnoid space caused any amelioration. Finally, the authors employed a serum obtained by the inoculation of asses with cultures of a streptococcus which was isolated by them and which they believed to be specific but the result was valueless.

In the chapter on the bacteriological researches with regard to sleeping sickness the authors describe the characters of a diplo-streptococcus discovered by them in the subarachnoid fluid. This organism they hold to be identical with the one described by Castellani independently. These results will, of course, require reconsideration in view of the recent discovery of a trypanosome in cases of this disease.

The conclusions which are arrived at are: that the malady is "une méningo-encéphalo-myélite diffuse," affecting chiefly the higher segments of the cerebro-spinal axis; that it is an infectious malady; and that the micro-organism described by them has been found in nearly all the cases investigated. With regard to prophylaxis they hold that every patient should be at once isolated, and the habitations where cases have occurred must be rigorously disinfected or burnt. Separate eating and drinking utensils should be provided for the inhabitants of any infected region. Abuse of alcohol and excessive fatigue should be avoided. Masters should not engage servants from an infected region. Finally, they recommend inoculation with the above-mentioned serum which was found to give good results in the animals experimented on.

The Medical Inspection of School Children. By W. LESLIE MACKENZIE, M.A., M.D. Aberd., Medical Inspector of the Local Government Board for Scotland; assisted by EDWIN MATTHEW, M.A. Aberd., M.B., C.M. Edin., Assistant Physician to the Leith Hospital. Edinburgh and Glasgow: William Hodge and Co. 1904. Pp. 455. Price 10*s.* 6*d.*

THIS volume is intended for the use of medical officers of schools and medical officers of health, as well as school managers and teachers, and cannot fail to assist in correlating the medical inspection of children with school management and teaching. The book has been written as a sequel to the report of the Royal Commission on Physical Training (Scotland) which definitely recommended that "provision be made for regular inspection of the children in all schools." With this recommendation we are heartily in accord and trust that it will be carried into effect by the Government. This will necessitate the appointment of many medical inspectors trained for this particular service of the State and for such the work under review forms a valuable text-book, containing much information on the medical inspection of children as well as on school organisation and the powers of educational authorities. To insure useful results from the medical inspection proposed it is essential that there should be a certain amount of knowledge and mutual understanding on many matters concerning both the inspectors and those engaged in education in the schools, so that reports made to the authorities may be understood and acted on. On pp. 255-377 the writers deal with the methods of examination and conditions of defect commonly found in the teeth, nose, ears, eyes, lungs, and so forth, as well as with the infectious diseases of childhood; the descriptions given are rather brief, being intended only for the instruction of medical men engaged in the duties of

inspection who may be supposed already to have acquired skill and experience in these departments of clinical work, but they will serve a useful purpose in supplying information to school managers and teachers when acting on reports as to the maladies of childhood which interfere with school life.

In the first part of the book, speaking of administrative difficulties that may arise, Dr. Mackenzie refers to parental objections and says that "when a system of medical inspection is once fully organised difficulties at present in the way will cease to exist." This raises an important question that is sure to be put forward when the matter comes before Parliament and one which it is the duty of the profession to meet fairly. It must be seen that a medical examination of children compulsorily attending school, if it is not to be followed by means for the relief of maladies or defects through medical treatment, may not altogether unreasonably give offence to some parents. The Commission instituted an examination of 1250 children in Scotland and we are told (p. 361) that in Edinburgh among 600 children "no case of hernia was discovered, although a very stringent examination was made of 100 girls and 200 boys, and a general examination in the others." Headings—"Hernia—Umbilical, Inguinal, or Femoral"—appear in Schedule A as suggested for adoption; we do not think the investigation of such points necessary among ordinary children attending a day-school. The teachers make a rough classification of the mental abilities of a new pupil by setting the child to work, when his defects are soon observed. What is needed for good school organisation is more accurate diagnosis of brain power and early recognition of any mental or physical disabilities. The principal means of diagnosis presented by the author are anthropometrical; we are surprised to see it stated at p. 65 that "the head measurements could not be regarded as having any direct bearing on physical or mental development or efficiency; but, as pointed out in the Commission's report (p. 24), they afford some data for determining the purity or mixture of races." This is quite contrary to the observations of Dr. Francis Warner and others who have studied the physical indications of mental feebleness and degeneracy, among which "small head" has constantly been observed in a large proportion of the cases. It is said (p. 64) that "measurements of some sort were an obvious necessity, since they alone could give definiteness to simple inspection." This is true in points where measurement is practicable. In the report of a committee of the British Medical Association on schools, 1895, 42 defects in development were defined and recorded in each case where they were seen, 21 "nerve signs" were also looked for, and the two kinds of signs were correlated statistically with the report on mental status and the nutrition of the child; information thus gained afforded valuable evidence used by several Royal Commissions and Parliamentary committees. Some such method might well be incorporated in organising the medical inspection of children.

In the second part of the book Dr. Mackenzie gives much useful information bearing on the practice of medical inspection of children, describing also the effects of environment as already ascertained and the averages of height and weight in relation to age as they have been determined by various observers. The purpose of inspection is defined as "intended first to discover precisely in what way the unfitness is manifested, and second, to indicate how the conditions of school life shall best be adapted to the degree of unfitness." It is in the adaptation of brain training as apart from the instruction of children that specialised medical knowledge and experience in treating mental defects are needed by the school inspector in order that the principles of mental hygiene may be brought to bear on school methods. Hitherto the School Boards that have appointed medical officers have not usually sought their advice as to methods of such training.

The relations of the inspection of children to general social investigation are ably dealt with. It is shown that many factors lead towards the ultimate result which it is desired to achieve through school life—viz., a healthy well-developed adult with full powers of mind and body. The principal factors dealt with are inheritance and hygienic environment. To these might well be added some detailed consideration of the effects of the teaching curriculum on the stability and growth of the brain. Under the heading Pre-natal Nurture the author refers to the heavy mortality of infants in the first month of life which is principally due to premature birth, congenital malformations, and defective conditions of ante-natal origin. It is among the surviving children with some degree of defect that the most difficult pupils are found in the schools. This is a very important aspect of child life which suggests that consideration should be given by the legislature to the advisability of prohibiting the work of women in factories during the later months of pregnancy. Probably hygienic measures which tend to lessen pre-natal defectiveness would lower the proportion of adult defectives in our population. Infant mortality falls principally upon the males, while it has been shown that almost all the conditions of congenital defectiveness seen in school children are more frequent among boys than girls and the lesser degrees of developmental defect, such as of the palate, nose, ears, mouth, palpebral fissures, and so on, all possess a significance as stigmata of degeneration and are of anthropological importance in dealing with the problems of childhood. We should like to see these points included among those recorded in the medical inspection of children, because it has been demonstrated that they are correlated with a subnormal brain condition and vitality. Probably the record of minor congenital defects is as good a test as can be obtained of the conditions in any locality predisposing to defectiveness in children, whether inherited from the parents or produced only during the pre-natal period. It was through the record of such points that the marked differences among the nationalities were observed by the committee of the British Medical Association on school children.

The third part of the book is devoted to school anthropometry and contains good illustrations of the apparatus devised by Professor Matthew Hay to whom the Commission intrusted the inspection of children in the Aberdeen schools. The schedule appended for recording each child has numerous headings on matters of social import, to which are added personal appearance and nutrition, height, weight, and certain body measurements, not including the head, together with diseases and gross deformities. Throughout the book it seems to us that the neurological aspect of the child has been subordinated to considerations of hygiene and anthropometry. The book is well printed and will be valued as one of the few standard works that have appeared on this subject.

Ophthalmological Anatomy, with Some Illustrative Cases. By J. HERBERT FISHER, M.B., B.S. Lond., Assistant Surgeon to the Royal London Ophthalmic Hospital (Moorfields). London: Hodder and Stoughton. 1904. Pp. 188. Price 7*s.* 6*d.*

WE are disposed to think that a better title for this work than that which it bears would have been "Cases Illustrating Certain Points of Ophthalmological Anatomy," since the author himself admits in the preface that much that might have been written under the heading of ophthalmological anatomy has not been included and for the omissions refers the reader to the text-books—a proceeding which, whilst it lightens the labour of the author, has the advantage of stimulating the industry of the student. Nevertheless, a

good description is given of the intracranial course of the fibres of origin of the optic nerve and of the third, fourth, fifth, and sixth nerves. The account of the olfactory nerve is obviously superfluous and has nothing to do with ophthalmological anatomy. The topographical relations of the skull to the subjacent convolutions and sulci are given with commendable exactitude. Several pages are devoted to a reprint of an article by Dr. Fisher, published in the fourteenth report of the Royal London Ophthalmic Hospital, in which he maintains a theory in opposition to the doctrine generally received that horizontal movements of abduction and adduction are respectively effected by the isolated action of the external and internal recti. This, he says, is a theory with which few anatomists and physiologists are in accord and he proceeds to supply various arguments in favour of his own view that these movements are in each case the result of the action of several muscles, the superior and inferior recti aiding the action of the internal rectus in effecting adduction and the two oblique muscles the action of the external rectus in abduction. The arguments which he advances do not bring conviction to our mind. Mr. Fisher writes a good chapter on the orbit and surrounding air cells. He is of opinion, in which we agree with him, that surgical procedures designed to deal with septic thrombosis of the cavernous sinus must be effected through the eviscerated orbit. The alternative proceedings of reaching the sinus through the maxillary antrum or by the lateral route corresponding to that chosen for the extirpation of the Gasserian ganglion are operations that can only be described, in the language of the elder Guthrie, as long, tedious, difficult, bloody, and dangerous. Mr. Fisher rightly insists on the attention that should be paid from the first to punctured wounds of the orbit, neglect of ordinary surgical antiseptic measures having frequently led to septic meningitis. He makes an original suggestion in regard to the emphysema that is sometimes observed after comparatively slight blows on the nose, emphysema that is limited to the eyelids, nose, and cheeks, and appears to be absent in the retro-ocular tissues. In such cases he has not been able to recognise any fracture of the bones and believes that the blow on the eyelids puts a sudden strain on the internal tendo oculi and thus lacerates the anterior wall of the lacrymal sac to which this ligament is adherent so that on blowing the nose the air is forced into the subcutaneous tissues through the rent in the tear passages. The book will be read with interest by the clinician rather than by the student.

Elements of Water Bacteriology with Special Reference to Sanitary Water Analysis. By SAMUEL CATE PRESCOTT, Assistant Professor of Industrial Biology, and CHARLES EDWARD AMORY WINSLOW, Instructor in Sanitary Bacteriology in the Massachusetts Institute of Technology. London: Chapman and Hall. 1904. Pp. 162. Price 5*s.* 6*d.* net.

THE bacteriological analysis of water has been passing through a period of somewhat severe trial but at last there seems some hope that it may emerge and establish itself on a secure basis as a trustworthy guide to the safety and suitability of a water for domestic purposes. We welcome this little book as a distinct help to this end. In it there are a singular clearness of vision as to the object to be attained and a resolute refusal to be drawn off into side issues which, though of great interest in the study of the flora of a water, are not of practical service for the determination of the sanitary condition of the supply. After a brief period of extravagant anticipation bacteriological analysis fell into an almost equally extravagant disrepute from which it is slowly recovering, thanks to much excellent work done in America and to the patient labours of Houston, Horrocks, and others in England. The difficulties which surround this method of analysis are due to the extreme delicacy of the tests and to the difficulty of determining what interpretation is to be placed on the presence of the ever widening group of colon bacilli and to the lack of any standard methods of analysis. This latter difficulty has been faced, if not met, in America by the appointment of a Committee of Standard Methods, with the result that the quantitative bacteriological analysis of water in that country is on a satisfactory basis as compared with the chaos which prevails in England and Germany. It was owing to the absence of such standard methods, no doubt, that we met with the astounding statements as to the sterility of the London water-supply which were produced for the benefit of the Water Commission. Unfortunately, though a great advance, the standard American methods are more uniform on paper than in practice. Experience shows that the suitability of a culture medium for the growth of organisms is largely modified by the method of sterilisation adopted and the American instructions allow the alternative employment of steam at 100° C. or the autoclave at 110° C. This is, however, of less importance when the analysis is for sanitary purposes than when the bacterial flora is to be studied.

After a preliminary chapter on the various factors which influence the number and variety of organisms in water the quantitative determination of micro-organisms and the interpretation of the results are treated and the broad conclusion is reached that recent contamination will betray itself by the presence of a large number of organisms developing in gelatine in a standard time—48 hours at 21° C. The results are controlled by culture at 37° C. in agar containing lactose and it is shown that normal waters contain few lactose-fermenting germs growing at this temperature. A very brief account of the methods to be employed for the detection of bacillus typhosus and spirillum choleræ is given. Naturally we turn to the chapters on the detection of bacillus coli and the interpretation to be placed on the discovery of this organism in the water examined. On the whole, the chapters dealing with these subjects are good. No attempt is made to dispute the fact that bacillus coli occurs in waters which cannot be condemned but the conclusion is reached that the absence of bacillus coli is certainly evidence of the harmlessness of a water and that when present its numbers form a reasonably close index of the amount of pollution. The solid basis on which these conclusions rest is that of a large number of analyses conducted in a definite manner, which show that an organism having certain characters—the bacillus coli of these authors—can be isolated from small quantities of contaminated waters and not from those which experience has shown to be safe. The significance of the discovery of bacillus enteritidis sporogenes, streptococci and other intestinal bacteria is shortly discussed and the book ends with an appendix giving instructions for the making of standard media. There are a very full bibliography and index.

Lehrbuch der Geburtshilfe. (*Text-book of Midwifery.*) By F. AHLFELD. Third edition. With 479 illustrations. Leipsic: F. Wilh. Grunow. 1903. Demy 8vo, pp. 757. Price 9 marks.

As we anticipated on its first appearance, Professor Ahlfeld's "Text-book of Midwifery" has met with a considerable amount of success and a third edition has now been published. There is much in the work to recommend it both to students and teachers. Not only does it put forward the results of the author's own large experience but it also contains the records of a considerable amount of original work carried out by his assistants and others working under his direction. Further than this the book contains a very complete bibliography.

The whole subject is treated in a most thorough and scientific manner, for the author gives not only his own views but does full justice to the work and views of others. It is essential in a text-book primarily intended for students that theories should be critically examined and if necessary rejected. The author of this book does not fail to state his opinions fully and dogmatically upon many debatable questions of practice and these expressions of opinion are of the greatest value since they are those of one well qualified to form a correct judgment. The book is essentially conservative in its general views and some of the more modern methods which have met with a good deal of support from others are regarded with a wholesome scepticism. As instances of this we may mention the employment of Bossi's dilator and the operation of vaginal Cæsarean section, two methods of treatment which have met with enthusiastic support at the hands of at any rate some authors. For the sake of his outspoken views upon these and kindred subjects Professor Ahlfeld's book may be recommended to those obstetricians who are only too readily carried away by their enthusiasm for methods of treatment of as yet unproved value.

LIBRARY TABLE.

Elementary Lectures on Errors of Refraction and their Correction. By HAROLD B. GRIMSDALE, M.B., B.C. Cantab., F.R.C.S. Eng., Assistant Ophthalmic Surgeon to St. George's Hospital, Assistant to the Royal Westminster Ophthalmic Hospital. London: *The Medical Times*, Limited. 1904. Pp. 87. Price 2*s.* 6*d.*—These lectures, we presume, represent the instruction given by Mr. Grimsdale to his pupils at St. George's Hospital. They supply information on errors of refraction sufficient for the average student and if thoroughly digested will to a certain extent enable him to understand the principles on which the refraction of the eye rests and the means by which deviations from normal conditions are recognised and corrected. It is taken for granted that the student has had practical lessons in the use of the ophthalmoscope but vision testing is fully described. Mr. Grimsdale considers that in almost every case below the age of 60 years, when accommodation is usually lost, it is advisable to use a mydriatic, atropine being employed for children and homatropine for adults. He very prudently observes that since the risk of glaucoma increases with age no patient who has been homatropinised should be allowed to leave the consulting room without the instillation of a drop of solution of eserine to neutralise the effect of the mydriatic. The principles on which retinoscopy rests are satisfactorily given and the mode of selection of glasses for the conditions of myopia, hypermetropia, and astigmatism is described in some detail, illustrative cases being added. It would be of advantage to the student if the notation of the prescription for glasses to be presented by the patient to the optician were more fully explained; such orders as those given on pp. 51 and 52 would not be readily understood without some attendance in the out-patient room. Mr. Grimsdale alludes to the performance of the operation of extraction of the lens in cases of high myopia. He does not, however, mention the limits between which it is legitimate to undertake it but simply remarks that eyes with high myopia are not healthy and that accidents are not infrequent. His personal experience has led him to regard the operation with some disfavour, 20 per cent. of the cases operated on subsequently suffering from detachment of the retina. Mr. Grimsdale will do well in the next edition of his little *brochure* to provide a better set of diagrams; those which he has inserted are rough and coarse and not always correctly lettered.

A Manual of Obstetrics. By A. F. A. KING, M.A., M.D. Ninth edition, revised and enlarged. With 275 illustrations. London: Kimpton. 1904. Pp. 622. Price 12*s.* 6*d.* net.—A text-book which has reached its ninth edition does not call for any extended notice on our part. In the present edition some errors have been corrected and various additions made. The author has been careful to preserve the character of the book as an elementary work intended only to present an outline of the rudiments and essentials of obstetric medicine to the student at the outset of his studies. It is not to be expected, therefore, that the work of revision will have been carried so far as to include all the recent advances in obstetric medicine. Were this so it would be easy to pick out many chapters which could not for a moment be considered up to date in the case of a more ambitious work. There can be no doubt that the book has adequately fulfilled the purpose for which it was written and we think that the present edition will continue to do so as well as its predecessors.

The Annual Charities Register and Digest, 1904. London: Longmans, Green, and Co. and the Charity Organisation Society. Pp. 750. Price 5*s.* net.—This admirable digest of "charities in, or available for, the metropolis" keeps up its high standard of information. The introduction by Mr. C. S. Loch contains everything that an almsgiver should know for the proper allocation of his alms. There is an index which is a model of accuracy and is full of cross references, while the body of the book gives details of all kinds of charities rightly so-called and in addition of a number of polemical "religious" societies which have no claim to the name. But the book is indispensable to anyone who wishes to help his poorer brethren in the best way.

The Oxford and Cambridge Year-Book, 1904. Part 1, Oxford. Edited by A. W. HOLLAND. London: Sonnenschein. Price 3*s.* 6*d.* net. Pp. 687.—This work may be called a university "Who's Who?" The editor's aim, as expressed in his preface, is to give "particulars of the degree—together with other distinctions—present occupation, and address of all now living who have graduated, or who are entitled to graduate, at either Oxford or Cambridge." So far as we can test the work the editor seems to have succeeded very well. The present volume will be found of great interest to all Oxford men and we look with pleasant anticipations to the forthcoming volume on Cambridge. On p. 346 the name "Kepple" is surely a misprint for "Keppel."

Analytical Records
FROM
THE LANCET LABORATORY.

SPARKLING SAUMUR: (1) DRY ROYAL; (2) BRUT ROYAL.
(ACKERMAN LAURANCE. LONDON AGENTS: J. N. BISHOP AND SONS, 13, COOPER'S-ROW, CRUTCHED FRIARS, LONDON, E.C.)

THE sparkling wines produced in the Saumur district of France are really excellent and deserve to be known better, for they are equal in many respects to the sparkling wines of Champagne. Of late considerable attention has been turned to the production of sparkling white wines outside the Reims district with very satisfactory results. Dietetically there is no reason why good sound, dry, sparkling saumur should be inferior to champagne wine, while it is generally of a light and non-acid character. According to our analysis the following represents the composition of two excellent types of sparkling saumur as above described. 1. Dry Royal: extractives, 4·57 per cent.; mineral matter, 0·17 per cent.; alcohol, by weight 13·15 per cent., by volume 16·24 per cent., equal to proof spirit 28·46 per cent.; volatile acidity reckoned as acetic acid, 0·06 per cent.; fixed acidity reckoned as tartaric acid, 0·57 per cent.; sugar, 2·47 per cent.; and volatile ethers reckoned as ethyl acetate, 0·03 per cent. This is a medium dry wine with excellent bouquet

and flavour. 2. Brut Royal: extractives, 2·87 per cent.; mineral matter, 0·12 per cent.; alcohol, by weight 12·77 per cent., by volume 15·77 per cent., equal to proof spirit 27·64 per cent.; volatile acidity reckoned as acetic acid, 0·054 per cent.; fixed acidity reckoned as tartaric acid, 0·53 per cent.; sugar, 1·31 per cent.; and volatile ethers reckoned as ethyl acetate, 0·023 per cent. This is an agreeably dry and sound wine which is practically free from volatile acidity. The bouquet and flavour are excellent. These wines are very good examples of sparkling saumur and there is no doubt that for invalid purposes they would serve as well as champagne. The restorative value of champagne wine is well known and there is no reason why sparkling saumur wines of this type should not be dietetically and medicinally as good. Where expense is a consideration sparkling saumur may be ordered with confidence for the same stimulating and restorative properties which qualify expensive champagnes.

"KUMA."

(COSMO CHEMICAL CO., LIMITED, 72, FARRINGDON-STREET, LONDON, E.C.)

We have been informed of the composition of this antiseptic fluid which is intended more particularly as a mouth wash although it may be used for other purposes in which a germicidal action is required. The formula is an excellent one containing well-known antiseptics, essential oils, and aromatics. It is free from harmful substances and is very pleasant to use. The vendors make no secret of the composition, so that medical men and dental surgeons may know exactly what they are employing. Our analysis has confirmed substantially the statement made in regard to the composition.

ALBUMENISED HUMANISED MILK.

(E. G. COOK, ASHFORD FARM, ASHFORD, MIDDLESEX.)

We have received two samples of milk from the above farm which have been modified to meet the special requirements of infants. Sample No. 1 was made with cow's milk, cream, lactose, colostrum, water, and a small quantity of potash and bicarbonate of soda. Sample No. 2 was made by subtracting from cow's milk a part of the casein and then adding cream, lactose, a small proportion of alkali, and the yelk and white of an egg. Both samples are so treated as to split up the fat globules and prevent their separation; they are then bottled under pressure of carbon dioxide and oxygen gas and afterwards heated to 150° F. for half an hour. According to our analysis this process succeeds in bringing the composition of cow's milk very closely to that of human milk. Thus the analytical results given by Sample No. 1 were as follows: fat, 2·65 per cent.; proteid, 1·98 per cent.; lactose, 5·42 per cent.; and mineral matter, 0·41 per cent. Sample No. 2 gave the following results: fat, 2·82 per cent.; proteid, 2·24 per cent.; lactose, 6·27 per cent.; and mineral matter, 0·65 per cent. The mineral matter is in slight excess owing to the addition of a little alkali and bicarbonate of soda. This milk is stated to give excellent results in infant feeding and medical opinion is quoted in favour of its employment. An important feature of the milk is that the antiscorbutic qualities of the fresh milk are retained unimpaired.

"TABLOID" OPHTHALMIC DIONIN.

(BURROUGHS, WELLCOME, AND CO., SNOW-HILL BUILDINGS, LONDON, E.C.)

Dionin, or ethyl-morphine-hydrochloride, has been very favourably spoken of in ophthalmic practice. The drug possesses definite analgesic properties and is said to be free from the disabilities of morphine and its salts. So far no euphoric symptoms it is stated have been reported to follow the use of dionin. Moreover, with the single exception of codeine phosphate, dionin is the most soluble morphine derivative. It is used in iritis, keratitis, glaucoma, vitreous and corneal opacities, and in sympathetic ophthalmia. The tabloid contains 0·0005 gramme of dionin.

BORO-THYMOL.

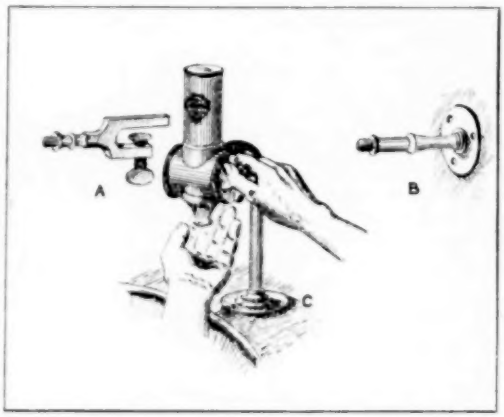
(THOS. STEPHENSON, 137, GEORGE-STREET, EDINBURGH.)

The composition of this agreeable antiseptic fluid is simple, while the antiseptics employed, though powerfully germicidal, are neither injurious nor corrosive. We found alcohol present and a residue was obtained amounting to 2·37 per cent., consisting of boric and benzoic acids. In addition there were present the volatile substances thymol, menthol, eucalyptol, and oil of wintergreen. The preparation is useful for application to wounds, for douching the nasal cavities, or as a gargle for the throat. It may be taken also internally to check gastric and intestinal fermentation, while it affords a pleasant wash for the mouth and teeth.

New Inventions.

THE "ONDO" SOAP DISTRIBUTOR.

THE principal object of the apparatus shown in the accompanying illustration is to avoid the use of one piece of soap successively by a number of persons and to provide a means by which each of them may have a separate portion of soap sufficient for purposes of ablution. Its principal parts are a reservoir for soap in the form of a loose powder and an arrangement for the delivery of this powder in quantities as required. The reservoir is an upright nickel-plated cylinder having a total length of about six and a half inches and an internal diameter of an inch and a half. The distributor is contained in the short horizontal cylinder, and when the four-armed cross shown at one end of it is turned small quantities of the soap powder are delivered from the opening at the lower end into the



palm of the hand. Three methods of mounting the distributor are provided—namely, by means of a support clamped to a shelf, as at A; or by a horizontal arm fastened to a wall as at B; or by a vertical standard bent horizontal at its upper part as at C. The price (nickel-plated) is 12*s.* 6*d.* Soap "refills" are supplied at 4*s.* per dozen, antiseptic and either perfumed or plain as desired. The weight of the apparatus full of soap is about two pounds. The makers are Messrs. John Bolding and Sons, Grosvenor Works, Davies-street, London, W.

BRISTOL CHILDREN'S HOSPITAL CONVALESCENT HOME.—The tenth annual meeting of the subscribers to the Children's Convalescent Home at Weston-super-Mare, which is in connexion with the Bristol Children's Hospital, was held on May 7th under the presidency of Mr. R. E. Dickinson, M.P. The medical report stated that 338 children had been admitted during 1903, the average stay in the home being three weeks. The financial statement was satisfactory.

THE LANCET.

LONDON: SATURDAY, MAY 28, 1904.

Physical Exercises for Children.

IT is as important for the well-being of a nation that its citizens should be strong physically as that they should have had mental training. A race of intellectual valetudinarians will surely fail in the present keen struggle for existence. During childhood the body and the mind are alike in a plastic state and can be moulded to a surprising extent by carefully directed training. It is therefore in childhood that the future citizens can be fitted for their future work, both mental and physical. Long ago the need for training of the mind was recognised and the many ancient endowments throughout the country bear witness to the long duration of the appreciation of mental training. It is, however, only within recent years that men have come to see that to obtain the best results physical training is also needed. The spontaneous physical exertion during playing is doubtlessly of inestimable value but with properly directed and coördinated exercises even better results are seen. With the recognition of the value of physical exercises the need for a suitable course of training arose. Many works on the subject have appeared and a "model course" was officially recognised for use in public elementary schools. It has been felt, however, by many of those who have studied the subject most deeply that the time has come for revising the scheme in the light of experience. A committee was therefore appointed to investigate the matter. It was under the chairmanship of Mr. J. STRUTHERS, C.B., and we are glad to see that it contained amongst its members two medical men—Dr. J. KERR and Dr. A. L. S. TUKE. It was essential that some members of the committee should possess medical knowledge, as the whole theory of physical training rests on a physiological basis. The report of this committee has recently been presented to Parliament and it deserves attention. The terms of reference to the committee were: "To examine the model course now in use, to judge how far it should be modified or supplemented, and to consider what principles should be followed in order to render a model course or courses adaptable for the different ages and sexes of the children in the public elementary schools."

With the course suggested in the Blue-book we are not especially concerned except that we may express our general approval. It is rather to the principles on which the course has been founded that we must direct our attention. It is often said to be unwise to give the reasons for an opinion, for the reasons may be more open to criticism than the opinion which depends on them. But we think the committee has done wisely in setting forth fully the principles which underlie the suggested model course. In the first place, the committee has endeavoured to exclude from the course all exercises which appear to be in the least likely to prove injurious to children of even weak physique. This was essential, as the course is intended for public elementary schools, and it must be remembered that the general average standard of physique in these schools is not high. The report further points out that there are children who from the condition of their health ought to be at times, or altogether, excluded from participation in these exercises. The suggestion is made that in future the teachers should receive instruction in the laws of health and in the outward signs of physical and mental weakness and that they should be taught to recognise probable deviations from normal health and normal physique. Teachers should be able to recognise the signs of defective nutrition and those defects of sight, hearing, and breathing which require medical attention and they should be familiar with the signs of fatigue, physical or mental. To attain this power of recognition of deviations from the normal a certain amount of practical training would be necessary for the teachers, for no amount of mere book-knowledge would suffice. Equipped with this capability of recognising the abnormal the teacher would be able to select the children who require further investigation which must be made by medical men and preferably by medical men who have specially studied the subject. We would suggest that it would be desirable that a medical man should now and then see a class during and immediately after a lesson in physical exercises, as he might thereby be enabled to detect abnormalities which had escaped the eye of the teacher. The report recognises that it is preferable that all physical exercises should be conducted in the open air but in this uncertain and very variable climate it is not practicable to make it a rule. The value of physical exercises depends in great part upon the regularity with which they are performed but the weather may make it necessary to suspend exercises in the playground for weeks together; therefore sometimes at least the exercises must be conducted within doors. In such cases, if possible, the windows should be open during the exercises so that as much fresh air as possible may be admitted into the room while the children are in active movement.

The report divides the effects produced by the exercises into "physical" and "educational." By the "physical" effect is meant the maintenance and improvement of the health and physique of the children. By the "educational" effect is meant the development in the children of the qualities of alertness, decision, concentration, and perfect control of mind and body. It is possible to distinguish between these two effects but they should be blended in every exercise, though in some one will preponderate and in some the other. The most important of the exercises producing a "physical" effect are those which have primarily a beneficial influence on respiration and circulation and as they thus improve nutrition they have been called "nutritive" exercises. These nutritive exercises include massive movements of the lower limbs, involving the whole bony and muscular structure of the body, and thus quickly and powerfully affect both respiration and circulation. Many exercises of this nature are to be found in the natural play movements, such as running, leaping, and skipping, and so far as possible these should be encouraged. Exercises which involve mainly the upper limbs and special breathing exercises tend to develop the

range of movement of the chest and to increase the power of the muscles of respiration. Breathing exercises are of great importance and it is very desirable that every child should be able to breathe through the nose and should be in the habit of so breathing but we can hardly go quite so far as the report in saying that nasal breathing diminishes the risk of contracting *most* infectious diseases. It is probably better to substitute the word "many" for "most." We are fully in accord with the report in attaching a high hygienic value to nasal breathing. Any child who cannot breathe comfortably through the nose requires medical examination.

Another group of exercises of importance includes those classed under the name "corrective" exercises. These are intended to correct as far as possible certain bodily defects, many of which are apt to be increased by the ordinary conditions obtaining in school life. "Heel-raising," for instance, is designed to oppose any tendency to flat-foot. Trunk-bending may help to prevent or to counteract a tendency to stooping or lateral curvature but it is hardly necessary to say that it is vastly more important to secure habitually good positions for the children while at work than to trust in remedial exercises performed only a few times a week. With all exercises there is an educational effect until the lesson is learned and therefore until it is learned a certain amount of mental concentration is needed and a certain effort of the will. Thus at first there is some degree of fatigue which tends to disappear as the exercise becomes almost automatic. Unfamiliar exercises should be treated to all intents and purposes as school lessons and there is the same need for adapting the length of the lesson to the age and capacity of the child. After an exercise has been learned and has been of benefit for its educational effect it may prove of distinct value by its daily employment for its beneficial effect on the respiration and circulation. The best exercises for this purpose are those which can be done quickly and without mental effort; they should be performed in the class-room several times daily for two or three minutes at a time. These exercises may well be called "recreative," for they serve to refresh children who have become fatigued by being kept long at a single task. Rapid and vigorous exercise should be taken for short periods only and should be followed by exercises of a quiet nature, during which the pulse and the respiration may slow down.

The report while claiming that all the exercises enumerated in the course can be performed in ordinary school dress, confesses that suitable clothing, and especially suitable footgear, would greatly enhance the efficiency of many of the exercises, and with this we entirely agree. It is suggested that a supply of gymnastic shoes might be made part of the school equipment. Music, we are told, should never accompany exercises which are being learned but may be employed for certain exercises when familiar. There are many other points in this excellent report which, did space permit, would well repay examination but we can refer only to the question of food. It is clearly useless, and worse than useless, to create by elaborate and carefully thought-out exercises a demand for increased nutrition of the body if the increased demand cannot be met. To insist on giving mental instruction to children who are underfed and often fasting appears to many at least as rather absurd but to exercise the bodies of these same children so as to induce a need for still further nutrition when the supply is already inadequate cannot be defended. We are bound to recognise the difficulty and the only apparent solution is to be found in the provision by the State of bodily as well as mental pabulum in the elementary schools. It is true that this relieves the parents of duties which they should perform but this applies equally to ordinary school instruction. The difficulty is very real and presses for a solution. We heartily commend this report to the notice of all who are interested in the well-being of the hundreds of thousands of children in our public elementary schools.

The Registrar-General's Annual Summary.

THE official summary of births and of deaths and their causes in the principal towns of England and Wales during the year 1903 has been issued from Somerset House. The general form of the present summary is similar to that of previous years but it now relates not, as in earlier years, to 33 great and 67 smaller towns, but to 76 of the former and 103 of the latter. In many respects the summary for 1903 is a decided improvement on its predecessors. The general arrangement of the tabular matter and of the letterpress has been amended and, what is of real importance to the busy reader, a brief and accurate table of contents occupies the first page. We are now furnished, on the authority of the Registrar-General and within four or five months of the close of each year, with uniform statistics concerning the mortality of all cities and towns in England and Wales that contain populations exceeding 25,000. In addition to this, however, information reaches us from various quarters that pressure is likely to be brought to bear on the authorities to publish similar data in future returns concerning much smaller communities and we cannot refrain from expressing a doubt whether any good purpose can be served by the publication of death-rates for populations numbering less than 25,000. Demands for such information will doubtless emanate from the district councils of small villages and hamlets. On p. 36 of this summary the reader will find that for nearly half of the 103 small towns included therein the Registrar-General has been at the pains to calculate rates of mortality corresponding to one death per annum from a particular disease. Seeing that one additional death in a year would make so great a difference in the death-rate it would appear more in accordance with modern statistical usage to discontinue the future publication of annual rates of mortality for towns of less than 50,000 population and, as regards the smaller towns included in Table V. of the present summary, to restrict the labours of the Somerset House officials to the collection and tabulation of the bare numbers of deaths registered locally from the various causes in each quarter or in each year, as the case may be.

The present annual summary shows that in the 76 great towns of England and Wales, containing an estimated population of more than 15,000,000 persons, the death-rate

last year was only 16·3 per 1000, being less by 1·1 per 1000 than the low rate of the preceding year. As in previous summaries, a table is given on pp. 4 and 5 in which the death-rates in the several towns are corrected for differences in the age constitution of their populations, and in the last column will be found the "comparative mortality figure" for each town, by means of which the towns have been arranged in a series indicating their relative position at a glance. The comparative mortality figure of England and Wales being taken at 1000 the table shows that the towns with the lowest mortality are Hornsey with a comparative figure of 581, King's Norton of 676, and Leyton of 722. At the other end of the scale come Manchester with a comparative figure of 1430, Middlesbrough of 1522, and Wigan with a figure of not less than 1538, as against 1000 for the country generally. Amongst the causes of death small-pox appears to have been distributed more widely than usual during the year. This disease caused 415 deaths in the great English towns and 90 in the smaller. Of these, 137 belonged to Liverpool, 25 to Manchester, 23 to Oldham, 22 to Leeds, 21 to Leicester, 19 to Gateshead, 14 to Cambridge, 13 to London, 12 each to Birmingham and Bradford, 10 to Burnley, nine to Newcastle-on-Tyne, and smaller numbers to 99 other towns. Measles caused a mortality of 0·36 per 1000 in the great towns, 0·45 in London, and 0·29 in the smaller towns. Scarlet fever was fatal to 0·14 per 1000 of the population in the great towns, 0·08 in London, and 0·12 in the smaller towns. Diphtheria was fatal to 0·20 per 1000 living in the great towns, 0·16 in London and also in the smaller towns. For whooping-cough the rates were 0·33, 0·35, and 0·28 per 1000, for fever 0·12, 0·08, and 0·11 per 1000, and for diarrhœa 0·71, 0·64, and 0·43 per 1000 respectively. Infantile mortality, measured by the proportion of deaths under one year to each 1000 births, was equal to 144 per 1000 in the great English towns, to 131 per 1000 in London, and to 135 per 1000 in the 103 smaller towns. Of the total deaths there occurred in hospitals, workhouses, or other public institutions 22·7 per cent. in the great English towns and 35·4 per cent. in London. Coroners' inquests were held in respect of 7·9 per cent. of the total deaths registered in the 76 great towns and in respect of 10·2 per cent. in London, the proportion ranging among the several groups of metropolitan registration districts from 8·5 per cent. in the southern group to 14·8 per cent. in the eastern. Of the total deaths registered the proportion of uncertified deaths wds 1·1 per cent. in the 76 great towns and 0·3 per cent. in London.

A useful addition to the summaries of the last few years consists in the insertion of a table showing the number of cases of infectious disease notified in the chief towns of England and Wales. With regard to small-pox, for example, we note that although only 13 deaths occurred in London as many as 416 cases of this disease were notified during the year, the greater part of which were isolated in hospital. In addition to the reported attacks of small-pox in the metropolis there were notified in Birmingham 254 cases, in Leicester 368, in Liverpool 1661, in Manchester 419, in Leeds 442, and smaller numbers in most of the other towns in the list. Reference to this table further shows the number of notified cases of scarlet fever, diphtheria, "fever," erysipelas, and puerperal fever. The only defect in this table seems to be that no statement is made of the total cases of the several infectious diseases that have been notified to the sanitary authorities concerned. This defect we hope to see remedied in future years.

Sociology.

THE opening meeting of the new Sociological Society, as to which we made some observations recently, appears to have been well attended and successful; but we doubt whether anything deserving the name of sociology can at present be said to exist, or whether the scattered knowledge bearing upon the questions comprised under the term has at present been sufficiently systematised to be of the slightest practical value as a help either to the attainment of good or to the avoidance of evil. Mr. GALTON wishes us to aim at the improvement of the human race by the aid of "Eugenics"—that is to say, by the careful selection of the parents of future generations. But he has not clearly shown either upon what principle they are to be selected or by whom the selection is to be performed. The rough and ready methods which have hitherto prevailed do not satisfy him, but where are we to turn for reform? The methods in question already differ much in different countries, and it may be that some of them are better than our own. In England the chief cause of attraction between the sexes is undoubtedly propinquity, in the sense that young men and young women of the same class are very much cast in the same mould, and the question whether REGGIE shall fall in love with ROSE or with DORA (if we may borrow our names from the charming poem in which Mr. AUSTIN DOBSON has described a not uncommon series of events) is largely dependent upon the chances which may throw one or the other across his path at a critical moment. In France, on the other hand, the predilections of parents are often of more importance than those of the young people themselves, and questions of *dot* predominate over any which arise from appearance, from character, or from disposition. Can it be said that any results dependent upon the difference are distinctly traceable in the two countries, or that the experience of either of them is sufficient to establish a rational theory? We think not.

We must not, of course, be supposed for a moment to deny the existence of underlying principles which may be potent in shaping the destinies of humanity, but we deny that these principles have yet been discovered or clearly enunciated, and we protest against the premature acceptance of hypotheses which have been subjected to no sufficient examination. Dr. ARCHDALL REID is reported to have said at the first meeting of the Sociological Society that "at the root of every moral and social question lay the problem of heredity," and that "until a knowledge of the laws of heredity was *more widely diffused* the public would grope in the dark in its endeavours to solve many pressing difficulties." We have italicised the most important words in the above sentence because they seem to us to imply a proposition from which we entirely dissent, the proposition that the laws of heredity are known somewhere or by some persons, and that the chief requirement of mankind is for

this knowledge to be diffused. We apprehend, on the contrary, that the chief requirement is for such knowledge to be gained and we are certain that this is Dr. REID's own opinion. The problems of heredity were as embarrassing to philosophers 250 years ago as they are to-day, and are apparently not much nearer to a complete solution. MALEBRANCHE wrote that some of the qualities of his contemporaries were clearly derived from "our first parents," and WEISMANN and his followers have done little more than suggest almost mechanical explanations of the way in which inheritance from remote ancestors may modify the natures of the men and women of to-day. We would earnestly warn sociologists against being tempted into hasty generalisations from insufficient data, and also against a tendency which too often besets the followers of nascent departments of science, a tendency to exaggerate the value and importance of the results which preliminary inquiries have appeared to indicate.

Mr. H. G. WELLS, a fascinating and suggestive prophet, is inclined to look to the sterilisation of failures, and not to the selection of successes, for improvement in breeding; and there can be no doubt that civilised nations are heavily burdened by the offspring of criminals and imbeciles who for the public good should be placed under restraint. The slums of all our big cities contain hundreds of people whose privilege it is to claim descent from a prostitute and a thief, and who are certain in their turn to be the parents of offspring inheriting the parental tendencies and qualities. The *proletarius* of old Rome was a citizen whose condition was so mean that the only service he could render to the State was to beget children for its defence. We cherish vast numbers of undesirables whose children are at once a danger and a disgrace; and yet we are beginning to feel the effects of a diminishing birth-rate. We commend this problem to the Sociological Society for consideration. It is difficult to suggest means for the sterilisation or segregation of the undesirables without giving too much offence to sentimental philanthropy; and the nation as a whole is in need of men. The society may do good service to the country by making representations on these matters which shall be weighty enough to attract the attention of the public.

The Stockport Hospital Scandal.

WE have received several copies of a local newspaper, the *Stockport Advertiser*, containing a voluminous account of what is called "The Stockport Hospital Scandal." We have also received sundry communications upon the matter in question which presents many features calling for comment in a medical newspaper. It appears that at one of the Stockport hospitals for infectious diseases, under the jurisdiction of the Stockport town council, a charge-nurse was asked to resign for certain acts which were construed as insubordination, the circumstances being peculiar. The first act of insubordination, according to a statement made by her superior officer, the matron of the Stockport borough hospitals, was the reporting to the medical superintendent of the borough hospitals, Dr. MEREDITH YOUNG, who is also medical officer of health of Stockport, inefficiency in the management of the hospital. The second act of insubordination alleged against the charge-nurse was that, when she was blamed for having reported errors of administration at the hospital, she telephoned asking the medical superintendent to come to the hospital and settle the points at issue. The medical superintendent arrived upon receiving the summons and matters appear for the time to have been settled, but relations between the charge-nurse and the matron remained strained. The matron is stated by the charge-nurse to have refused to take telephonic communications between the hospitals from the charge-nurse about the patients' requirements, and the charge-nurse made other allegations against the matron; the hospital subcommittee sat on the matter and it was deemed advisable that the charge-nurse should be asked to send in her resignation. The complaints made by the charge-nurse were: (1) that the hospital in her charge had been left without domestic service from 9 A.M. to 5 P.M. at a time when there were severe cases; (2) that ice ordered by the medical superintendent at 11 A.M. did not arrive till 9 P.M. on the day following, the order having been transmitted through the matron; (3) that the soiled linen of a case of diphtheria had been left on the bed in the observation ward of the hospital under the matron's jurisdiction for five weeks; and (4) that practical joking, dancing, and general merriment of a sort which the circumstances made indecent had prevailed in that hospital without the knowledge or consent of the medical superintendent in the infected wards and in the neighbourhood of sick patients.

The hospital subcommittee met six times about the matter. The charge-nurse was not allowed to appear in substantiation of her complaints against the matron or in opposition to her own dismissal. But after dismissal unheard the committee invited her to come to the hospital and make her accusation against the matron, a course which she properly declined to take unless assisted by a solicitor. The hospital committee refused to accede to her request, and at the conclusion of a prolonged meeting held on April 18th, at which the matron and her witnesses only were heard, the following resolution was passed:—

"That it is the opinion of this committee that the matron has done the best she could in the interests of the hospital and the patients, but that there seems to be a need for a revision of the rules for the future guidance of the matron, and that in view of certain matters of an irregular nature that have been admitted by the matron, she be reprimanded by the chairman."

An amendment, moved by Councillor H. G. SMEETH, a medical man, seconded by Councillor A. G. WILKINSON, was lost.

"That, in the opinion of this committee, the serious charges that have been made against the matron of this hospital have been admitted in so far that this committee feels that it cannot do less than call upon her for her resignation."

The charge-nurse, being advised by solicitors, summoned the corporation for her wages, for board and lodging during suspension, and for legal expenses, and was paid.

The whole matter became public upon the report of the sanitary committee in endorsement of the action of the hospital subcommittee coming up for approval at a meeting of the town council. It having been moved that the reports as read be passed, confirmed, and adopted, a long

debate followed on an amendment proposed by Dr. H. G. SMEETH, who evidently considered that the charge-nurse had been dismissed in an arbitrary manner unheard and that the matron had been whitewashed in an unsatisfactory way. Dr. SMEETH lost his amendment, the voting being practically upon political lines, but there are circumstances why it is not likely that the matter will rest here. A medical man named Dr. HYDE MARRIOTT, a town councillor of Stockport but not a member of the hospital subcommittee, who was not present at any of the meetings in which the conduct of the matron and the charge-nurse had been discussed, and who had therefore no knowledge of the various points in the matter save what he might have derived from hearsay, rose to defend the matron from Dr. SMEETH'S amendment, basing his action on chivalry. He is reported in the *Stockport Advertiser* to have said that "the voice of scandal had no effect on an honest man, who had his remedy with his fist, but that with a woman it was very different." He owned that he had not been to the hospital himself, but he said that he had heard from the best authority possible that the matron was an excellent matron and he then proceeded to make charges against the medical superintendent, Dr. YOUNG, whom he found guilty of all the failings which the matron had admitted, because the medical superintendent was in general charge of the hospitals. He is reported to have said that the cause of the present trouble was that the medical superintendent was too fond of listening to tittle-tattle, that the matron had plenty of work to do and would not think of looking whether "dirty things" (referring to the linen of the diphtheria patient) had been taken out of the observation ward. "Why did not the medical officer do it?" he asked; "he was equally responsible with the matron. It was his duty to look after that." He criticised the medical superintendent's treatment of a case and wound up by making, whilst sheltering himself behind unnamed authority, the statement that Dr. YOUNG had received a gratuity from a nurse who had been discharged for drinking.

We have no hesitation in saying that Dr. MARRIOTT made a grave professional error in behaving as he did at the Stockport town council. While accusing Dr. YOUNG of listening to tittle-tattle he made a speech based entirely upon hearsay in which he was betrayed into mendacious allegations of a most serious character. It is true that, later he apologised for the accusation which he had brought against Dr. YOUNG of receiving a gratuity from a drunken woman but he appears not to have been given an opportunity of doing so until after the voting upon the amendment had taken place, and no amount of apologies will put the matter right. A gentleman is not supposed to escape the responsibility of making vile accusations by a few words of confession of error. But not only was Dr. MARRIOTT guilty of a gross breach of ordinary manners but he has defaulted from professional standards by trying to hold up a professional brother to public contempt. The presence of medical men upon municipal bodies can be extremely valuable to the community and to the medical profession because they can explain to their lay colleagues in the municipality medical points, the proper jurisdiction of medical officers, the duties of house surgeons and nurses, the recognised ethical methods of the medical profession, and so on—matters which sometimes are puzzling for the layman to understand. What, however, are we to think of a councillor who uses his position on the town council absolutely to misstate what are the official duties of the medical officer of health of a borough and to do so in a speech which already contained a malignant innuendo? Dr. MARRIOTT should know perfectly well that it is not the business of the medical superintendent to see that dirty sheets are washed. It is the medical superintendent's business to give general orders with regard to disinfection, particularly when he is dealing with a matron whose nursing experience has not brought the point within her ken, but it certainly is not his business to spy into linen-baskets and washing books to see whether the linen is washed.

The story is an unpleasant one in every way and we strongly recommend those inhabitants of Stockport who are interested in their municipal government to think over what has happened. A charge-nurse has been dismissed unheard, her legal claim for wages, made by summons, having been paid later. A matron who admits charges of incompetency, who admits having been rude to the medical officer of health, and who plays jokes in sick wards remains in charge of a borough hospital. A valuable public official is accused in public by a professional colleague of taking a gratuity from a drunken woman. The votes which are to register the view of the town council upon certain aspects of these serious matters are given upon political grounds.

Annotations.

"Ne quid nimis."

THE AMENDMENT OF THE LUNACY ACTS.

As we announced last week a Bill to amend the Lunacy Acts was introduced on Wednesday, May 18th, in the House of Commons by the Attorney-General and was read for the first time. We see no particular reason why its provisions should not become law at once, but even if this does not occur the advantage, at any rate, is gained that the subject will receive further discussion, from which medical men and those interested in the welfare of the nation will learn what are the public views on certain necessary reforms. The Attorney-General's Bill provides for the temporary care of incipient lunatics, a class who at the present time in England are allowed to remain a source of danger to others and misery to themselves until some overt act of insanity allows of their being dealt with by law. Sir Robert Finlay's Bill provides that if a medical practitioner certifies that a person is suffering from mental disease, the disease not being confirmed, and if the certificate states that it is expedient, with a view to the patient's recovery, that he should be placed under care for a period therein stated, not exceeding six months, then during that period a responsible person, whose name and address must be stated in the certificate, can take charge of the patient, the provisions of the existing Lunacy Act notwithstanding. The certificate must not be signed by the person under whose care the patient is to be placed, and where a medical practitioner signs any such certificate he shall, within one clear day after signing it, send a copy of it to the Commissioners in Lunacy that the commissioners may visit the patient to whom the certificate refers. The person who receives a patient under such certificate

must also within one clear day after receiving the patient give notice to the commissioners of his reception; and if the patient dies, or the residence of the person receiving him is changed within the period mentioned in the certificate, notice of the death or change of residence must be given to the commissioners. At the expiration of the time mentioned in the certificate the consignee of the patient must report upon the patient's condition to the Commissioners in Lunacy under a penalty of £50. Only one patient may be received at a time. It is clear that such an amendment of our present procedure as this will be of the greatest value, as opportunity of observation will be afforded in cases where treatment as a lunatic might be mischievous, but where to do nothing is to take still greater risks.

ANNUAL REPORT OF THE MEDICAL DEFENCE UNION.

THE annual report for 1903 issued by the council of the Medical Defence Union affords interesting reading to all concerned in the welfare of the medical profession. During the year 1903 over 1000 cases have been brought before the council for consideration, in addition to which a large number have been directly dealt with by the general secretary. No case conducted by the union has been compromised. From a table of the expenses incurred by the union in medical defence for the last 14 years it is calculated that the average cost of legal proceedings per head works out at 4*s*. 10*d*., while the total legal and general expenditure, including all office and working expenses, averages 9*s*. 1*d*. per member. The steady increase of members of the union proves that it is firmly established in the estimation of the profession. Concerning the attitude taken by the Medical Defence Union in regard to the British Medical Association undertaking medical defence, the council states that in its course of action it has only adhered to the opinions expressed in 1898 when the British Medical Association at the annual meeting held at Edinburgh decided by a considerable majority that medical defence should not be undertaken by the association. This decision rested almost entirely on the fact that the work of defence was carried on so ably already that there was no necessity to alter the memorandum and articles of association in order to provide for such work. The annual report contains an account arranged in a tabulated form of a great many cases dealt with by the union. Within the space of eight years there have been placed in the hands of the legal adviser of the union 1194 cases which works out at an average of 150 cases for each year. Mr. Hempson, the solicitor to the union, is of opinion that each succeeding year brings with it more conclusive testimony to the respectful regard and wholesome fear in which the union is held by speculative litigants. That the greatest risk and danger to which a medical man is exposed is that of libel and slander is borne out by the fact that during eight years out of a total of 1194 cases 322, or nearly a fourth, referred to this particular offence. The union is now said to possess an accumulation of retractions and apologies signed by offending parties against whom proceedings have been taken on behalf of members sufficient in number to paper entirely one of the walls of the union offices. A woman whom one member had been attending entirely from humane and charitable motives as her position and means did not permit of her paying professional fees accused him to his partner of having had immoral relations with her and stated that unless a specific sum was paid to her the matter would be ventilated. She further stated that in order to remove the evidences of his guilt the member had performed upon her an illegal operation and that as a consequence her general health and condition had been seriously impaired. The woman was threatened with proceedings on the member's behalf unless she immediately retracted the gross charges, signed a statement admitting that there was absolutely no foundation for them, and apologising to the member for having made them, and this was done by her. In the following account of a case dealt with by the union the value of its prestige is well shown. A medical man was threatened by a local solicitor with an action for malpraxis on the ground that he had treated in the hospital a patient with gross want of care and skill. The solicitor demanded the name of the solicitors who would accept service of process in default of his paying a certain sum of money. The member at once communicated with the union who placed the matter in Mr. Hempson's hands. He wrote to the solicitor justifying the member's treatment of the case in every way and intimating that he would accept service of process on the member's behalf. In his reply the solicitor stated that "having regard to the fact that the case would be defended by the union he did not propose to proceed further." The report affords in other places much evidence of the benefits which the profession has received as a result of the union's work in connexion with the suppression of unqualified practice, and the union is now probably as well known to unqualified practitioners as it is to the impecunious litigant and the mere sending of a letter from the union offices has been sufficient in most cases to secure from unqualified practitioners a cessation of their practices. The annual report of the Medical Defence Union deserves greater attention than is usually bestowed on publications of this kind.

THE RESTRICTION OF LICENSING.

TEMPERANCE legislation moves faster in Canada than with us. According to the latest temperance figures the number of licences in Ontario has fallen from 6185 in 1875 to 2957 in 1903, or, on the basis of population, from one licence for 278 persons to one for 740 persons. The greatest reduction has been effected in the larger centres—a significant fact. The exercise of local option which has been experimentally tried in many districts has had the effect of notably restricting the sale of liquor. In 1897 the age of prohibition for minors was raised from 18 to 21 years. The latest hour allowed for the sale of intoxicants is 11 o'clock. Concurrently with these changes the limit of population with regard to licensing has been extended and no public-house is allowed to be opened in the immediate vicinity of a church or a school. These reforms attract attention as much because of their purposeful and methodical progression as because of their thoroughness. The people of Ontario, having made up their minds to be temperate, have, step by step and Act by Act, attained a very substantial measure of success and apparently without seriously deranging the machinery of commercial prosperity. In this country we are moving in the same direction but we move more slowly and not so certainly. Nevertheless there is a fairly general and increasing agreement of public opinion that the retail trade in intoxicants has hitherto enjoyed a too indulgent sanction and that it will bear considerable restriction. This feeling is reflected in the terms of the two latest Licensing Acts. The frankness with which the feeling has been interpreted by local justices is probably in some degree accountable for the more cautious and defensive character of the latter of these two Acts. The principle of compensation, which is so carefully provided for by this measure, cannot be objected to on the ground of equity. If it is observed without prejudice and with an honest desire to reduce the number of licensed houses within the limits of public necessity it will not prove a serious hindrance to the progress of temperance reform. The withdrawal of the prohibitory power from local justices is a step of more

dubious utility. A local magistracy would certainly appear to be the best judges in questions as to the rights and requirements of a community, while the quarter sessions bench would constitute a court of appeal from their decisions if required. Everything must, however, depend upon the spirit in which the new Act is administered. It is much to be hoped that in granting licences under its provisions regard will be had to the importance of encouraging temperance among the people.

PUBLIC AMBULANCES.

THE use of ambulances in cases of accident and sudden illness has recently been a subject of discussion in the columns of the *Manchester Guardian* and an important addition to the correspondence was made on May 23rd by a letter signed by Mr. R. H. Wolstenholme of Salford, chairman of the Manchester Medical Guild, and by the two honorary secretaries of the guild. Briefly stated, the guild is in favour of a municipal ambulance and first-aid system available for the public in general without distinction of class and providing not only for patients who would probably be treated at one or other of the hospitals but also for those who would prefer to be removed directly to their homes. Moreover, the first aid rendered before removal by ambulance ought to be far more efficient than it is at present. Unnecessary haste in removal of patients is generally to be deprecated. The guild judiciously recommends that the first aid should be as efficient as the resources of medicine and surgery can possibly make it, that it should therefore be carried out by a properly qualified medical man, and that it should be available at any part of the district with the least possible delay. In order to avoid the expense and complications inseparable from the appointment of special emergency medical officers and the creation of dressing stations the guild suggests that the police should be empowered and directed to obtain the attendance of the nearest available medical practitioner who already has a surgery fitted up for dealing with emergencies.

ENDOGENOUS PNEUMOCOCCIC INFECTION OF THE EYE.

MODERN researches have shown that lesions in other parts than the lungs are frequently produced by pneumococci. In the eye conjunctivitis and suppurative keratitis may result from infection of external origin. But ocular infection of internal origin, the pneumococci being conveyed to the eye by the circulation, has received little attention. At the meeting of the Société Médicale des Hôpitaux de Paris on April 29th M. P. Le Gendre and M. V. Morax related the following case. A woman, aged 47 years, was admitted to hospital on Jan. 17th in a delirious condition. At the beginning of the month she took to bed with a feverish illness which her medical attendant attributed to "pulmonary congestion," and on the day before admission she became delirious. At the apex of the left lung there were subcrepitant râles and an expiratory "souffle." She did not appear to see clearly but there were no signs of ocular inflammation. The delirium continued, the temperature was about 104° F., and auscultation gave rise to a suspicion of infectious endocarditis. On the 19th there were diffuse cloudiness of the right cornea and pus in the anterior chamber. The conjunctiva and episcleral tissue were moderately injected. In the left eye the symptoms were less severe; there were slight iritis and fibrinous exudation in the field of the pupil. On the following days the condition of the left eye did not alter much but the pus in the right anterior chamber increased considerably. On the 22nd the right eye was enucleated. Death occurred on the 25th. The necropsy showed in the whole extent of the left lung extremely thick pleural adhesions. Apart from slight congestion and œdema no other macroscopic pulmonary lesion was found. There were vegetative endocarditis of the mitral valve and infarcts in the kidneys and the spleen. Examination of the right eye after enucleation showed purulent exudation in the retina, the ciliary body, and the anterior chamber. Microscopic examination and cultures revealed the pneumococcus in pure culture in the exudation. In the aqueous humour the pneumococci were as numerous as in a culture. The vegetations on the mitral valve were infiltrated with pneumococci. The heart's blood yielded the pneumococcus in pure culture. Evidently pulmonary infection preceded the pneumococcic endocarditis and pneumococcic septicæmia to which the patient succumbed. The clinical characteristics of the iritis enabled the pneumococcic nature of the infection to be diagnosed before a bacteriological examination was made. In another case of pneumococcic iritis of uterine origin with cerebral abscess observed by one of the writers the iritis ended in the production of a similar fibrinous exudation in the pupil. In the pus of the cerebral abscess the pneumococcus was found in pure culture. Some writers have published cases of suppurative choroiditis in pneumonia. In 1853 Arlt described the case of a child suffering from lobular pneumonia who had metastatic meningeal abscesses and suppurative choroiditis. In 1874 Piéchaud observed suppurative choroiditis with spontaneous perforation of the sclerotic in a woman who died from pneumonia with empyema. Natanson and Eversbusch have reported cases of pneumonia during influenza with irido-choroiditis, unilateral or bilateral. When the part played by the pneumococcus in pneumonia was discovered it became possible to establish more precisely the connexion between the ocular affection and the pneumonia. In 1892 Herrnheiser first demonstrated the presence of the pneumococcus in the ocular pus. The patient was a man, aged 67 years, who was admitted to hospital on March 25th for pulmonary trouble. On April 2nd there was suppurative infiltration of both corneæ with hypopyon. On the 10th there was left panophthalmitis with perforation of the cornea. In the right eye there were slight infiltration of the cornea, iritis, hypopyon, and yellowish exudation on the posterior surface of the crystalline lens. Death took place four days later. The necropsy showed fibrinous pneumonia of the left lung, suppurative meningitis, and acute aortic endocarditis. Pneumococci were found in all the ocular and other lesions.

THE UNIVERSITY OF WALES AND MEDICAL DEGREES.

A WELL-INFORMED article in the *Cardiff News* of May 23rd sets out in much detail a variety of arguments in support of the view that the University of Wales should be authorised to confer degrees in medicine. Of course the chief centre of interest in such circumstances would be the Cardiff Medical School which would naturally bear to the University of Wales the same relation as the Newcastle-on-Tyne Medical School at present has to the University of Durham. The Cardiff school may be said to date from 1893, when chairs in anatomy and physiology and a lectureship in materia medica and pharmacy were established, thereby making it possible for students of medicine to learn the subjects included in the first three years of medical study as required by all universities and colleges in Great Britain. Attendance on this portion of the curriculum at Cardiff is recognised and accepted by all universities and colleges. During last year there were in the Cardiff school 55 students of medicine and 20 special students in the public health department, making a total of 75. In 1903 there were 15 medical students registered at the school, the corresponding numbers being 18 for University College, London, and also for the University of Birmingham. As mentioned in our issue

of May 21st, p. 1485, the subject of a supplemental charter conferring various additional powers is already being considered by the University of Wales and the chances of the University obtaining what it seeks seem good.

MODERN PERAMBULATORS.

A CORRESPONDENT who has returned to this country after an absence of 20 years is much exercised to find that a new fad has arisen "which may have a most serious effect on the rising generation. I refer to the baby carriages now in general use in which the unhappy child is propelled through the world backwards." We do not think that our correspondent need distress himself. The modern perambulator is far superior to the old-fashioned arrangement in which the unhappy child was placed on a narrow seat and fastened in with a strap. A weakly child in such circumstances when he fell asleep always fell forwards and sideways and was mainly supported by the strap which pressed on the abdomen while the child's head lolled over the side. The modern perambulator in which the child can lie is far better and it is of no great moment whether the child faces in the direction in which he is travelling or no; in fact, if he faces towards his nurse he can talk to her when he pleases, which, given an intelligent nurse, is a very good thing. There is, however, a form of perambulator, or push buggy, to give it its name in the country of its origin, which is most pernicious. It is a little mail-cart which runs near the ground and can be folded up at will. The child in one of these is far too near the ground, the seat is too small, and there is next to no support for the feet. It is more than probable that the indiscriminate use of such conveyances may seriously injure a child's nervous system but the reclining form of perambulator is harmless even though the child does face the opposite way to which it is going.

THE SUNSHINE OF ENGLAND AND SWITZERLAND COMPARED.

Dr. J. W. Cook, the medical officer of health of the Clacton urban district council, sends us a most interesting table in reference to our remarks upon the relative amounts of sunshine in England and Switzerland which appeared in THE LANCET of May 14th. It will be seen by this table that Clacton-on-Sea, even in the dismal years of 1902 and 1903, had a decided advantage over nearly every other place mentioned in the matter of sunshine.

Comparative Sunshine recorded in the Month of April at the Undermentioned Places in England as per the Meteorological Office Weather Report for the Three Years 1902, 1903, and 1904.

—	1902. Hours.	1903. Hours.	1904. Hours.
Clacton-on-Sea	213·6	180·1	208·7
Newton Reigny (Penrith) ...	181·6	109·4	—
Bath	180·8	160·0	143·7
Lowestoft	125·1	102·1	112·1
Hastings	179·2	160·9	172·5
Eastbourne	176·2	140·9	145·5
Brighton	161·9	139·0	139·6
Worthing	183·6	172·3	168·6
Llandudno	229·5	172·5	161·1
Rhyl	197·0	164·5	138·6
Southport	107·7	164·9	166·8

Dr. Cook says: "Doubtless when Englishmen know that such a large amount of sunshine can be had so near home, rather than going so far for it they will be inclined to keep their money in England instead of spending it in Switzerland." We rather doubt this, for to get the most advantage out of a holiday there is nothing like going abroad. A holiday depends not so much upon sunshine as upon a complete change of scene, change of surroundings, of food, and even of language. Moreover, a holiday spent abroad as a rule costs much less than in this country. A month spent in Brittany or Normandy can easily be done for 10 francs per diem and the Briton who sighs for the food of his native land will now find that French coffee is quite as bad as English, only about one-third of the price. But it is still comforting to know that our much abused climate can produce as much sunshine as that of countries lying further south.

THE DISTRIBUTION OF PLAGUE.

THE medical officer of health of the Cape Colony states that for the week ending April 30th only 1 case of plague was reported throughout the colony—namely, a Chinese male at Port Elizabeth. Plague-infected rodents were also found in the town. In the Cape Town and Harbour Board area 629 rodents were examined but none was affected with plague. As regards the Transvaal, Lord Milner, telegraphing on May 21st, states that the plague return for the week ending May 21st was as follows: total number of fresh cases reported since May 14, 7—namely, whites, 2; coloured persons, 5. Of the cases reported 3 have been found to be not plague—making the present total of suspected and proved cases 140, of which 24 occurred in whites and 116 in coloured persons. The number of deaths since May 14th is 2, both whites.

MEDICAL SCIENCE PAPERS AT THE BONN MEETING OF THE GERMAN BUNSEN GESELLSCHAFT.

THE German Society for the Study of Physical Chemistry, known as the Deutsche Bunsen Gesellschaft, has been holding its eleventh annual gathering in Bonn and on May 14th a whole session of its time was devoted to the reading and discussion of papers of medical interest. Dr. Schroeder of Bonn dealt with the importance of cryoscopy (or freezing-point determination) in its relation to health and stated that by such observations upon the blood and the urine valuable light could be thrown upon the activity of the heart and the state of the circulation. Professor Dreser of Elberfeld followed with a paper upon the same subject, while Professor Arrhenius of Stockholm dealt with the Chemical Mass Action of Toxins and Antitoxins. He has carried out a long series of laboratory investigations on this subject and has arrived at conclusions which are opposed to the generally accepted theories of the action of these bodies upon each other. Professor Arrhenius is convinced that toxins and antitoxins obey the ordinary laws of chemical action and that they react with one another in the animal organism as weak acids react with weak bases in chemical mixtures. Dr. Ehrlich of Frankfort led the opposition to the views of Professor Arrhenius and stated that his own experience of the action of poisons gained in the Institute of Experimental Therapy in Frankfort, of which he is the head, had convinced him that the ordinary laws of chemical action would not explain the interaction of toxins and antitoxins. In the case of diphtheria his view of the action of the antitoxin was that it reacted with the toxin produced by the bacteria characteristic of the illness, but that such reaction was far more complex and difficult to follow than was foreshadowed by the theory of Professor Arrhenius. A number of authorities and writers on this subject joined in the discussion and striking differences of opinion were manifested. The fourth paper of medical interest was by Professor Nernst of Göttingen and related to the action of the electric current upon the nervous system. Experiments with high-frequency

alternating currents upon frogs had been conducted by him and the results had proved that the usually accepted views upon the action of these currents were incorrect. Such currents he considers penetrate the body and do not simply spread out over its surface, and the laws which govern the passage of electric currents through electrolytes and conductors are found to apply in this case also. The nerves, in fact, behave in such cases, in his opinion, as half permeable membranes.

THE SUPPLY OF ICE FOR DOMESTIC USE.

THE supply of pure ice in this country for domestic purposes is not as abundant or available as it should be, and it is absurd that practically the only shop where it may be obtained is that kept by the fishmonger who keeps it not for purposes of consumption but for cooling fish. The fishmonger's shop does not always represent an environment that is, sanitarily speaking, satisfactory, yet when ice is wanted in sickness or in health the only tradesman that can be found to supply it is the fishmonger, and his supply is usually limited. It seems ridiculous that in the English summer the demand for ice should not be sufficient to warrant the establishment of a special agency for its supply. We feel sure that if such a scheme could be organised it would be widely appreciated and would succeed as soon as the public realised how much better and healthier it is to have their food and beverages kept cool during the days of a hot and seasonable summer. As it is they have to be content with semi-liquid butter and mawkish lukewarm beverages which should be cold, especially those which are aerated. A cheap and abundant supply of pure ice for domestic purposes would give the housekeeper a chance of keeping a cool storeroom in which meat, poultry, eggs, and other perishable articles of food could be preserved. Not only would waste of food be so prevented but the ravages of the putrefying agencies of hot weather would be checked and the food saved from becoming unwholesome if not positively dangerous. In fact, we imagine that nobody will deny the very great advantages derived from keeping certain foods cold in the summer and preserving them in a state fit for consumption and attractive to the eye and palate, and yet practically no steps are taken to supply such an important and very evident need. This looks to us like lack of enterprise.

FIFTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

THE Fifteenth International Congress of Medicine will be held at Lisbon in 1906 under the presidency of their Majesties the King and Queen of Portugal from April 19th to 26th inclusive. Membership of the Congress is confined to medical men and to other men of science introduced by the executive Portuguese committee or by the foreign committees. Subscription to the Congress is £1 or 25 francs or 20 marks for foreign members. The work of the Congress will be divided into 17 sections and the executive committee of the Congress is anxious to print all the official papers before the meeting, so they must be given in to the general secretary before Sept. 30th, 1905. Other papers sent in by authors wishing to read them at the Congress, if it is desired that they should be printed before the opening of the Congress, must be sent in before Dec. 31st, 1905. The official language of the Congress is French, but besides this tongue English and German may be used. Portuguese has been purposely excluded by the committee with the intention of diminishing the number of languages spoken and it seems to us that this somewhat self-sacrificing regulation is deserving of great praise. The president of the organising committee is Dr. M. da Costa Alemão and the general secretary is Dr. Miguel Bombarda, to whom all subscriptions must be sent at the Hospital de Rilhafolles, Lisbon. Any questions which deal with the scientific work of the sections must be addressed to the president of the committee of the particular section but anything that concerns the organisation of the general work of the committee must be addressed to the general secretary. The secretary for Great Britain is Dr. F. W. Pavy, 35, Grosvenor-street, London, W.

TWISTED PEDICLE OF AN OVARIAN TUMOUR THRICE REDUCED WITHOUT OPERATION.

IN the *Boston Medical and Surgical Journal* of April 7th Dr. C. A. Porter has published a case in which the twisted pedicle of an ovarian tumour was thrice reduced without operation. A woman, aged 35 years, had a normal confinement in May, 1900. On Dec. 22nd, 1903, she ate some unsound meat. She became sick in the night and vomited violently all the following day. After a severe attack of vomiting she was seized with sharp pain in the right iliac region. She saw and felt a lump there of the size of a small orange which disappeared after manipulation. The pain then ceased. On Jan. 5th, 1904, after carrying her child upstairs she had a similar attack of pain which lasted an hour. There was occasional vomiting. Menstruation had begun on the previous day more profusely than usual. On the morning of Jan. 11th she had a third attack. Menstruation still continued, although it usually lasted only three days. She vomited every 15 minutes. At 4 P.M. after an attempt at palpation the pain suddenly ceased. She was seen an hour later by her medical attendant who found a moveable globular tumour in the hypogastrium. On the inner side of the pelvic brim on the right side there was slight tenderness. Ovarian cyst the pedicle of which had become twisted, causing the three attacks of pain, was diagnosed. The point of tenderness appeared to indicate the position of thrombosed vessels due to the twisting of the pedicle. Immediate operation was advised on the grounds that the pedicle might become further twisted at any time with the production of gangrene. On opening the abdomen a purplish ovarian cyst in a moderate amount of fluid was found. It was rotated one-and-three-quarter times on its axis. The ovarian veins and the veins of the broad ligament were thrombosed at the site of the twist. A similar tumour was found on the left side. Double ovariotomy was performed but in view of the patient's age a little ovarian tissue was left.

JUVENILE TABES DORSALIS.

JUVENILE tabes has often been confounded by writers with Friedreich's ataxia, but if it is remembered that motor incoördination of the legs is ordinarily the first and the most striking manifestation of Friedreich's disease, whereas it is extremely rare in true tabes dorsalis, that the so-called preataxic stage which is frequently, if not constantly, present in tabes dorsalis is never present in Friedreich's disease, and, finally, that the one disease (Friedreich's disease) has often a "family" character, while tabes dorsalis is by no means a family affection these, together with the differential symptoms recorded below, will serve to distinguish the two affections. In the *New York Medical Journal* of May 7th Dr. Alfred Gordon, instructor in neurology in the Jefferson Medical College, Philadelphia, deals with juvenile tabes dorsalis and calls attention to the following interesting points in the case recorded below which illustrates a new and as yet undescribed complication—viz., an attack of tabes dorsalis following after (but not due to) infantile paralysis. The case really shows that juvenile tabes is due to inherited or acquired syphilis, as juvenile general paralysis has long been known to be. In the great majority of cases acquired syphilis is the cause

of tabes dorsalis in adults but in cases of juvenile tabes Dr. Gordon states that he could trace the causation to inherited syphilis, acquired syphilis being in this case excluded by careful inquiry. The case was that of a boy, aged 17 years, who at the age of 18 months had suffered from an attack of fever with convulsions and vomiting. After three days a total paralysis of the right arm was noted by the parents. The affected limb never recovered its power and could never be used again. The patient recovered from his illness and enjoyed good health after this until his fourteenth year, when he began to suffer from weakness and various paræsthesiæ of the left leg and numbness of the thigh and sole of the foot, so that he felt when he walked as though his feet "trod on soft cotton and not on the solid ground." Pains of a dull aching as well as lancinating pains were felt in the limb. A year later slight pains of a similar character developed in the right leg also. Hyperæsthesia of the bladder and some difficulty in expelling urine were noted. The remaining symptoms included feelings of "pressure and tightness" in the lumbar region and some weakness of vision. The right arm began to waste and wither away, the whole limb (except the hand) being much reduced in size. The skin was dry, flabby, and dulled to sensation and the reflexes were almost lost in this arm, while the muscles failed to respond to faradic or galvanic stimulation. In addition to these he showed various tabetic symptoms, such as "girdle" sensations and disturbances of the deep reflexes and of the sphincters, showing that the monoplegia of infancy was succeeded by the recent poliomyelitis. There were also loss of the knee-jerks, some inequality in the size and reaction of the pupils, and a slight ataxia of gait. These symptoms were undoubtedly due to tabes dorsalis and inquiry showed that when the mother of the child was pregnant with him she was infected with syphilis by the father. Dr. Gordon refers to the few rare cases of juvenile tabes recorded by Eulenberg, Morel, and a few others, showing that the influence of syphilitic infection in utero was a possible, as in this case it was a positive, etiological factor.

INDUSTRIAL EFFLUVIUM NUISANCES: YEASTS IN TANNING MATERIALS.

IN an annotation in THE LANCET of Nov. 1st, 1902, p. 1212, reference was made to an alleged nuisance arising from a tannery owing to the use of brewers' barm or yeast in the tanning process. It was stated that the presence of yeast in the waste liquors of a tannery strongly accentuates the offensive character of the effluent. The smell was described by residents and others as a "putrid offensive stench like that of highly decomposed animal matter." It would appear, however, that yeasts are present in all, or nearly all, of the vegetable materials used in the tanning industry, from which they can be isolated. Such, at any rate, is the conclusion arrived at by Dr. J. R. Carver who has just published the results of an investigation upon the subject undertaken in the Public Health Laboratory of the University of Manchester under the direction of Professor S. Delépine. During the course of an investigation upon the possible relations between the use of brewers' yeast in a tannery and the production of noxious gases Professor Delépine ascertained that various yeasts were present in all materials used in two tanneries as well as in all the liquors and effluents and that the fermentations to which they gave rise were not accompanied by the generation of noxious gases. Dr. Carver set out to ascertain firstly whether the various forms of yeast cells belonged to separate kinds or races of yeasts having distinct cultural characters or properties; secondly, the characters of the yeasts which could be isolated from the various tanning materials; and thirdly, if possible, whether yeasts played any useful part in the tanning process. It was found that yeasts are present in all of the materials, from which they can be isolated; they are present also in all the waste products but their isolation is difficult owing to the presence of a large number of bacteria. The yeasts in pure cultures do not produce any bad smelling gases and do not appear to contribute to the smell of the tan liquors. Finally, whatever share yeasts may have in the souring of ordinary tan liquors there was no clear indication of such action in any of the pure cultures studied and, moreover, in old tan liquors and waste products the yeasts did not seem to have increased in number equally with bacteria. On the basis of morphological and cultural characters Dr. Carver found it possible to recognise seven or eight varieties of yeasts but he is not able to state that these forms correspond to as many species, for after being grown for several generations in pure cultures some of the forms which at first appeared to be distinct gradually approached a common type.

THE SANDGATE SCANDAL.

ON various occasions attention has been directed in our columns[1] to the objectionable state of matters created by the homes for tuberculous patients which the late Mr. John James Jones established in Sandgate. From its situation on the coast of the English Channel Sandgate possesses many of the natural features suitable to a health resort and among the general residential population amounting to 1955 persons there were only 14 deaths during 1903. This mortality was, however, almost quadrupled by the deaths which occurred in various institutions or convalescent homes. Among visitors who had gone to Sandgate as patients in these establishments there were 50 deaths, 43 of which occurred among 881 tuberculous patients accommodated in the homes carried on by Mr. Jones. This influx of patients, among whom there was a death-rate of almost 5 per cent., could not fail to excite some uneasiness among the permanent residents in Sandgate, a feeling which found expression in an appeal made to the Local Government Board by Sir Edward Sassoon, Member of Parliament for the district. The reply received from the Board was unsatisfactory. It was to the effect that the Board had no power to move in the matter and that as Mr. Jones had recently died the time was inopportune for dealing with the question. Sir Edward Sassoon then brought the matter before the House of Commons on May 19th in an admirable speech, drawing the attention of the House to the increasing difficulties experienced by local authorities, and especially by small local authorities, in their efforts to restrict the establishment in populous districts of "consumptive homes" which did not enforce the precautions considered by the medical profession to be essential for the protection of the general public. The President of the Local Government Board, however, replied to the effect that no sufficient cause had been shown for the Board to take action. He said that a district could not be protected against infection by regulations, and that a consumptive patient in a home was less dangerous to the public than one who was not in a home, because in the latter case there was no restraint on his movements up to a late stage of his illness. With all due respect for these statements by the President of the Local Government Board we feel that to plant a colony of tuberculous patients in the midst of a small town is anything but an advantage for either the patients or the permanent residents. The Sandgate "Sanatoria" are not sanatoriums in anything but name. Leaving this point, however, aside a variety of reasons make it desirable that sanatoriums for the treatment of tuberculosis should not be in immediate proximity to centres of population. There are so many different phases to the question

[1] THE LANCET, August 22nd, 1903, p. 565; Feb. 20th, 1904, p. 527.

that it will be necessary to discuss it at greater length, particularly as a public health congress is about to meet at Folkestone, within two miles of these homes.

ON the retirement of His Majesty the King from the office of President of St. Bartholomew's Hospital the governors decided to commemorate that illustrious presidency, which had extended over a period of 34 years, by procuring, by subscription amongst themselves, a portrait of His Majesty. That portrait, with His Majesty's permission, has been painted by Mr. Luke Fildes, R.A., and is a replica of the well-known picture exhibited in the Royal Academy in 1901. It has been placed in the great hall of the hospital.

Mr. A. Forbes Sieveking, son of the late Sir Edward Sieveking, is requesting the loan of any of his father's letters to assist him in writing an extended biography of this distinguished physician. The letters, or copies of them, as well as any memoranda of a personal kind illustrating Sir Edward Sieveking's character, should be sent to Mr. Sieveking at 12, Seymour-street, Portman-square, London, W.

THE annual dinner of the West London Hospital will be held at the Trocadéro Restaurant on Saturday, June 25th, when Dr. J. Barry Ball will occupy the chair. All those connected either with the Post-Graduate College or by past and present service with the hospital will be welcome. Communications should be made to Mr. L. A. Bidwell.

A MEETING of the Royal Medical and Chirurgical Society will be held on Tuesday, May 31st, at 8.30 P.M., at 20, Hanover-square, London, W., when Dr. W. P. Herringham and Dr. W. A. Wills will read a paper on the Elasticity of the Aorta, being a contribution to the Study of Arterial Sclerosis, which will be followed by a discussion.

Sir Dyce Duckworth delivered an address before the British Balneological and Climatological Society at 20, Hanover-square, London, W., on May 18th on the subject of British Winter Resorts. The address was followed by the annual dinner of the society and a smoking concert at the Criterion Restaurant.

Sir William H. Broadbent, Bart., Dr. Nathan Raw, and Dr. A. P. Hillier have been appointed to represent the British National Association for the Prevention of Consumption and other Forms of Tuberculosis at the International Conference on Tuberculosis now being held in Copenhagen.

THE forty-fourth annual dinner of King's College, London, will be held at the Hotel Cecil, on Monday, June 20th, when the Marquess of Salisbury will occupy the chair. Communications should be made to Mr. John Chapman, honorary secretary of the committee, at King's College, London.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—The authorities of this College have recently adopted regulations for academical costume. The general body of the Fellows are authorised to wear a black stuff Master of Arts gown, faced with a St. Patrick's blue Irish poplin border five inches in width, narrowing round the collar behind and extending to each end of the gown in front. Inside of the blue poplin there shall be a crimson Irish poplin lining five inches in width and of similar extent as the blue. The cap is black velvet with St. Patrick's blue and crimson tassel. The Licentiates' costume is similar but the poplin facings and linings are only two inches in width and the cap is black cloth with a black tassel. The gowns and caps may be worn at all public functions, College ceremonials, State and civic public meetings, and on all occasions when academical costume is worn by the Fellows of the Royal Colleges of Surgeons of England and Edinburgh.

EPIDEMIC OF PLAGUE IN JOHANNESBURG.

BY WALTER C. C. PAKES, M.R.C.S.ENG., L.R.C.P.LOND.,
MEDICAL OFFICER OF HEALTH, RAND PLAGUE COMMITTEE.

Previous Precautionary Measures.

PLAGUE having existed for many months on the south and east coasts of South Africa it was obvious to those who had charge of the public health in the Transvaal that sooner or later it was highly probable that the Transvaal would be visited by the disease. In order if possible to prepare for such an epidemic the medical officer of health of the Transvaal, the medical officer of health of Johannesburg, and the Government bacteriologist had all made arrangements for (1) preventing if possible the influx of plague into the Transvaal and (2) dealing with it should it arise.

These arrangements consisted of: 1 (as regards the medical officer of health of the Transvaal). The appointment of a special plague officer at Volksrust (the first town on the Natal line in the Transvaal), the establishment of an observation camp at Vereeniging, a general supervision of Asiatics, natives, and so on. 2 (as regards the medical officer of health of Johannesburg). It was felt that as Johannesburg was the point to which the vast majority of the traffic tended the first signs of plague would arise in that city whether in the human subject or in the rat. As early as February, 1903, the medical officer of health of Johannesburg sent out circulars to the local medical profession containing extracts from the Plague Memorandum, dated September, 1900, by Mr. R. H. Power. These circulars described the symptomatology of the disease and gave full directions for obtaining and forwarding for bacterioscopic examination material from suspected plague cases. He recommended and the Johannesburg town council, in connexion with the Government, organised a plague camp within the confines of the Government lazaretto at Rietfontein in order that immediately upon the outbreak of plague all such cases as well as suspicious cases could be transferred at once. 3 (as regards the Government bacteriologist). The Government laboratories were specially developed in order to be able to undertake the bacteriological diagnosis of this disease even on a large scale. In January, 1903, the general manager of the Central South African railways was requested (1) to issue instructions to all his employés upon the lines of communication from the Cape, Natal, and the Portuguese borders to be on the look-out for any dead rats, and (2) to request the responsible officials where such were found to send them to the Government laboratories for diagnosis. The Johannesburg municipality appointed a professional rat-catcher and all dead rats found by him were sent to the laboratories for bacteriological examination and there examined.

The first intimation of the existence of plague in this colony was obtained by the Government laboratories in April, 1903, when a dead rat was sent to the laboratories from Johannesburg. This rat was shown to have died from plague. Between the previously mentioned date and the outbreak of plague in Johannesburg 13 rats were found to have died from plague. These rats came from different neighbourhoods in Johannesburg and the most careful inquiry failed to reveal the slightest connexion between any two spots from which dead rats had been obtained. The inevitable conclusion was that these rats had been imported singly from the coast in grain or forage. Each place from which a plague-stricken rat had been taken was visited by the rat-catchers and disinfectors and cleaned up. It is a noteworthy fact that it only once occurred that a second rat was obtained from the same place. The authorities did not confine their attention to rats; cats and dogs, and by chance ducks, fowls, and small birds, came under bacteriological observation, with the result that, although the rest proved negative, one cat was certainly found to have died from plague and this fact was also notified to the Government.

The Government laboratories had received from the Chamber of Mines a grant of money to be expended in investigating the various causes of pneumonia occurring on the Rand, with especial reference to the deaths among the coloured population. The examination of the rats and the investigation into pneumonia in the human subject were

being carried on side by side in the same laboratory and by the same observers. It is practically impossible, therefore, as the Government laboratories were endeavouring to find the various causes of pneumonia in this country, that they should have failed to identify in the sputa which they were examining an organism which they were finding in the rats. It can therefore be asserted with confidence that no material from a case of plague in the human subject had been sent to the Government laboratories before March 19th, 1904. During the course of 1903 there was a scare of plague. This has been reported by the medical officer of health of Johannesburg in his annual report and this report has been sent to England. The Government laboratories certified these cases as cases of either streptococcal septicæmia or pneumococcal septicæmia. It may be suggested that the evidence of the bacteriologist was not sufficient and that the failure to isolate the plague bacillus from these cases was not conclusive evidence; but a careful consideration of the whole of the circumstances surrounding those cases (with two exceptions) showed that the bacteriological diagnosis coincided with the clinical and post-mortem appearances. The two cases in question were cases of natives who had suffered, according to the clinical and post-mortem reports, from adenitis. From these two cases an extremely pathogenic pneumococcus was isolated and the bacteriologist certified the cause of death as pneumococcal septicæmia. It may here be remarked that in this colony the pneumococcus produces conditions which are rarely met with elsewhere and many clinicians have found that in epidemics of pneumonia long prior to the introduction of plague into this country natives suffering from the usual pneumococcal disease did suffer from adenitis. The death returns showed that there was immediately preceding the outbreak of plague a slightly increased mortality from what was certified as pneumonia in the coolie location and the adjacent district of Burghersdorp. This was not altogether unanticipated either by the medical faculty or the health authorities since there had been three weeks of unprecedented wet, misty weather succeeded by a sudden fall in the temperature and cessation of rain.

The Present Epidemic.

Nothing of an alarming nature was brought before the health authorities of Johannesburg until the evening of March 18th, 1904, when the health inspector of the municipality informed the district surgeon of Johannesburg that he had found in the coolie location a large number of sick persons collected together. The assistant district surgeon was instructed to visit the place in question and he reported to the district surgeon that he found a number of sick Asiatics suffering from what appeared to him to be pneumonia in a house in the coolie location. At 6.30 A.M. on March 19th the district surgeon, the acting medical officer of health of Johannesburg, and the assistant bacteriologist for the Transvaal visited the house in the location. They found five corpses and 12 cases of sick in a four-roomed house.

The post-mortem examinations revealed nothing which could not be explained by death from pneumonia. There was not a single classical symptom of death from plague; the spleens were not enlarged and were not markedly hyperæmic; there were no ecchymoses or hæmorrhages; the organs, with the exception of the lungs, were normal. The lungs showed patchy pneumonic consolidation of the lobular type and although a very careful search was made for enlarged glands none were found. It is to be remarked that not even a single bronchial gland was found. Portions of the lung on bacteriological examination showed organisms morphologically identical with the plague bacillus. Owing to the insanitary condition of the coolie location and to the large and unknown number of cases in that location it was decided to cordon the whole area in order, if possible, to keep the actually infected people within a limited area. The cordon was formed at 4 A.M. on March 20th and on the same day at 9 A.M. an emergency meeting of members of the Johannesburg town council was held, when the acting medical officer of health and the district surgeon were instructed to take all necessary steps. By 9 A.M. on March 20th farther deaths had taken place, making a total of 26 deaths in 36 hours. It is to be remarked here that not a single case of these showed any signs of buboes. On March 22nd the Government published plague regulations and constituted the Rand Plague Committee, composed of ten members from Johannesburg and representatives from the various local authorities within the Witwatersrand area. This committee was given plenary powers to deal with the outbreak within that area and to establish plague and isolation camps.

One of the first decisions arrived at by the plague committee was to remove the whole of the population of the coolie location to some site outside the town and the transfer of the population within the cordoned area to the segregation camp was completed on March 30th. This population consisted of 1600 Asiatics, 1358 natives, and 142 coloured people, making a total of 3100 transferred to the segregation camp. During the incubation period of the disease only one death from plague occurred. After 12 days' interval the inhabitants of the segregation camp were allowed to come and go under certain nominal restrictions. On April 8th the coolie location was burned to the ground. In order to prevent the escape of rats, cats, dogs, fowls, and other creatures a galvanised iron fence was put up round this location and the various animals and birds which had not been previously caught and destroyed were then caught, killed, and burnt in the fire.

Methods Adopted for Coping with the Epidemic.

The plague committee has carried out in the main the recommendations of the Durban Plague Congress. "Contacts" are not segregated; so far as possible they are kept under observation but their movements are limited to the least possible extent. "Suspects" are isolated as such in a suspect camp adjoining the plague camp at Rietfontein; with the exception of the medical officers the suspect and plague camps at Rietfontein are treated as separate entities. So far as possible the methods adopted are early notification, removal and complete disinfection of all suspects, and observation of contacts. The natives working on the mines within the Witwatersrand area are inspected daily by the compound managers and any natives who are found to be sick are at once examined by the mine medical officer. It has been made compulsory upon all employers of natives to have every sick native medically examined within 24 hours of his falling sick. In order to minimise the spread of the disease no Asiatic is allowed to travel by rail, even within the limits of the colony, unless he receives a clean bill of health from the medical examining officer. During the period from March 29th to April 19th there have been 14,010 natives brought under medical observation and one case of plague and seven suspects have been detected and transferred either to the plague or suspect hospital. The total number of deaths from plague recorded from March 18th to April 23rd in Johannesburg district and the Rand area was 76—namely, eight whites, 52 Asiatics, and 16 natives. How the disease originated has not yet been discovered but the following may be accepted as established facts: (1) There has not been up to the present moment anything approaching an epizootic; (2) it is unlikely that there were more than one or two bubonic cases preceding the epidemic for the reasons above mentioned unless there had been unrecognised cases of pestis minor; and (3) the disease might not have been diagnosed for many days after March 18th had there not been a sudden explosion which from a scientific point of view was almost as interesting as it was alarming.

ÉTABLISSEMENT HIVERNAL ET THERMO-MINÉRAL D'HAMMAM-R'HIRA (ALGÉRIE).

BY D. W. KEILLER MOODY, M.D., C.M. ABERD.

IN December, 1903, I was sent in charge of a patient who was ordered to winter in Algiers. While there, and on the advice of Dr. A. Thompson, the resident English medical man, I went to Hammam R'Hira to see the baths. I had never before heard of the place and I believe there are hundreds of medical men who can say the same. It has, however, been visited by several eminent medical men, and among others by the late Sir Morell Mackenzie, by Sir Lauder Brunton,[1] by Mr. G. D. Pollock who says: "I know of no place offering similar advantages within the same distance and as accessible to London"[2]; and by Dr. R. A. Gibbons

[1] Practitioner, April, 1881.
[2] THE LANCET, March 5th, 1881, p. 362.

who writes: "In mentioning the claims of Hammam R'Hira I am influenced by the fact that we have no place like it, or which can be in any way compared with it in this country or on the continent."[3] But as far as I can learn nothing has been written about it in English medical journals for many years. I propose, therefore, to give a brief account of my own personal experiences of the place, which I trust may be of service to those of my brother practitioners who have never had the opportunity of visiting it themselves and who may be glad to hear of a spot where there is perpetual sunshine and which is only three days' journey from London.

The best and quickest way to get to Hammam R'Hira is to travel *viâ* Paris to Marseilles and thence by means of the steamers of the Compagnie Transatlantique. They are about 2000 tons register and sail four times a week for Algiers, doing the journey across in about 26 hours. Those who do not care for the overland route and to whom time is no object can have a choice of several ways. They can go by either the Peninsular and Oriental or the Orient-Pacific steamship companies' vessels to Marseilles or Gibraltar and tranship at either of those places, or they can go direct to Algiers by the vessels of the British India Steamship Company. A night will have to be spent in Algiers and next day a three or four hours' journey by rail (according to train) to Bou-Medfa, 60 miles distant, will have to be taken, where a carriage from the hotel meets travellers, and thence there is a drive of one and a half hours through beautiful scenery which reminded me of the Highlands of Scotland, New Zealand, and the Rockies of America—really a combination of the whole three. The hotel is a very fine one, equalling any to be found on the continent of Europe. It is of immense size, cost a large sum to build, and is replete with every comfort for the invalid. It stands on the top of a hill 3000 feet above the sea level and is surrounded by a pine forest of 1800 acres and beautiful gardens and orange and lemon groves. It has the distinct advantage of being "Far from the madding crowd." No trippers or tourists are to be found here—the place is too quiet for them. Here also patients have no temptation to run contrary to the orders of their medical advisers. The tariff is such as to come within reach of those whose means are limited, the charges being from 11 francs per diem inclusive of wine and also the natural mineral waters.

I would recommend all who think of trying the place to go there between Feb. 1st and the end of April. Then one can be absolutely sure of continuous fine sunny weather. It is, however, open from Dec. 1st to June 1st. In December, however, I found it rather cold, especially in the morning and evening—the kind of weather one often meets with in the South of France.

The baths were known even to the Romans who built a town round them, remains of which are being continually unearthed. The Moors, who have separate baths, have great faith in them and theirs are constantly in use. The French, also recognising their therapeutic value, have established a military hospital close by. The baths are two large swimming ponds situated in the basement of the building and measuring 15 by 30 feet. The temperature in bath No. 1 is from 90° to 93° F. and in bath No. 2 from 104° to 110°, the reason for the difference being that the water in bath No. 2 comes direct through pipes from its source in the rocks, which is 200 yards away, whereas the water in bath No. 1 is merely the overflow from bath No. 2 The supply is very plentiful and as each bath fills it simply overflows. The constant flow thus insures cleanliness. Like Dr. R. Ottewell-Gifford Bennett,[4] on going into bath No. 2 I felt a scalding sensation which made me at once withdraw my leg. I, however, persevered and soon got used to the heat. One stays in each bath about ten minutes or as the physician orders. The waters are in their composition very similar to those of Bath. For those who so desire there are private baths, hot and cold douches, jets, shower bath, &c. Analysis of the hot springs shows that one litre of water contains:—

Carbonate of lime	0·207	Chloride of potassium ...	0·091
Carbonate of magnesium	0·030	Silicate of sodium	0·069
Sulphate of lime	1·303	Alum	0·002
Sulphate of magnesium	0·172	Peroxide of iron	Trace.
Sulphate of sodium ...	0·017		
Chloride of sodium ...	0·439	Total	2·330

[3] THE LANCET, June 10th, 1888, p. 1126.

[4] Extracts from the Journal of British and Foreign Health Resorts, March, 1891.

Besides the baths there is also a cold aerated mineral water which contains saline and ferruginous salts and is of a pleasant taste. The iron is in such small quantity that one does not taste it. The water mixes well with claret or other light wines. Analysis of it is as follows:—

Free carbonic acid	0·8820	Sulphide of sodium ...	0·3425
Bicarbonate of lime ...	0·9411	Chloride of sodium ...	0·2801
Bicarbonate of magnesium	0·0314	Chloride of potassium ...	Trace.
Bicarbonate of strontium	Trace.	Silicate of sodium	0·0240
Bicarbonate of manganese	0·0008	Alum	0·0028
Bicarbonate of iron ...	0·0400	Organic matter	Trace.
Sulphide of calcium ...	0·5338	Arsenic and phosphoric acids	Trace.
Sulphide of magnesium	0·1623	Total	3·2408

These baths are undoubtedly of great service in the treatment of chronic rheumatism and gout, both muscular and articular. They are undoubtedly of great service also in neurasthenia, neuralgia, scrofula, hepatic and renal diseases, certain forms of paralysis (my attention was drawn to the remarkably good results obtained in an early case of locomotor ataxia), and some chronic uterine affections. The mineral waters are very useful in anæmia, dyspepsia, hepatitis, and constipation; they have also been recommended in cases of renal calculus. In early cases of pulmonary consumption this is an excellent place on account of its equability of temperature, its dryness, and its fairly high altitude

There is plenty of outdoor exercise for those who are physically intact. Horse riding through a beautiful and hilly country is to be had, while tennis, croquet, cricket, and beautiful drives and walks are available for those so inclined. In the way of sport there are plenty of hares, rabbits, partridge, quail, and wild boar to be had, with perhaps an occasional panther. There is a long verandah (100 yards) where patients can sit the whole day and the hotel provides an excellent band. From what I have seen of the place I can honestly recommend it. "We live in a nervous age." I consider it an excellent place for those suffering from "brain fag," of which so much has been heard lately.

MR. ION PERDICARIS AND SANITARY REFORM AT TANGIER.

THE capture of Mr. Ion Perdicaris and Mr. Cromwell Varley by the brigand Raisuli is a matter of more than ordinary and personal concern. Tangier is within five days' journey from London. It possesses so many natural and climatic advantages that its popularity as a health resort was likely to increase more and more. From time to time we have described some of these advantages.[1] Morocco, however, belongs to decadent Moors and to more or less wild and savage tribes of Berbers, Riffians, Bedouins, and a sprinkling of negroes from the Soudan. These people feel that they cannot compete against European mechanical appliances and manufacturing processes. Consequently they have very consistently and logically resisted to the uttermost any attempt to Europeanise their country. The Sultan himself has been won over to European ideas. He takes interest in photography, motor-cars, and other contrivances calculated to disturb the contemplative repose that suits so well the dignified Moor. Therefore the people have taken alarm and have rebelled against their Sultan. A sort of civil war has prevailed for now more than two years. Thus the hope that Tangier and perhaps other places on the coasts of Morocco might become useful resorts for the climatic treatment of disease has been thrown back indefinitely unless it be that night is darkest just before daybreak.

The fact is that considerable progress, to use the term in a European sense, had been accomplished of late years at Tangier. Under the leadership of Mr. Ion Perdicaris the European residents had constituted themselves into a sort of borough, elected a municipality, and duly proceeded to impose taxes on each other. They used the money thus collected to build some sewers, to pave some streets, and in fact to introduce sanitary improvements which rendered

[1] THE LANCET, May 7th, 1887, p. 955, and June 18th, 1898, p. 1721.

the place more inhabitable. Therefore, more visitors came, land increased in value, and so many new and European houses were built that had this continued the picturesque character of the place would soon have been destroyed. Then people would cease to go to Tangier and then all this building would have proved useless and a dead loss. But the Moors rebelled. They did not, perhaps, greatly object to the improvements made at Tangier, particularly as for the moment it brought in a golden harvest, but they could not tolerate European ideas at the court of their own Sultan and in the interior of the country. Little by little the Sultan has lost his authority and the country has fallen into a state of anarchy. The culminating point of this disorder is surely reached when so respected a resident as Mr. Perdicaris can be surrounded and captured in his own house, though it is situated but three miles from the embattled walls of Tangier. It is not probable that even Raisuli and his wild men would willingly do Mr. Perdicaris or Mr. Varley any bodily injury, but Mr Perdicaris is not in good health and at his age the rough existence he will be forced to lead may produce evil results. Perdicaris all his life has been devoted to good deeds. No one could be more popular among the Moslem Moors whom he has defended over and over again from the extortions of Jew and Christian usurers, acting under the cover of the *protégé* system. It will go hard with Raisuli and his tribe if they injure him. To the European Mr. Perdicaris has also been a constant friend and the leader in all practical useful works. It was Mrs. Perdicaris who organised the soup kitchens when there was danger of cholera, so that the want of food should not prepare the way for the outbreak of the disease. In all public works that have contributed to render Tangier clean and healthy Mr. Perdicaris was the principal initiator and donor. The cause of public health has in him its first and most useful champion, while in regard to the cruel abuses practised under the *protégé* system he has been instrumental in bringing about reforms. We cannot believe him in danger, but the episode is none the less disconcerting, as other Europeans not well-known and respected may be similarly treated. What is so pleasant and health restoring at Tangier is the facility for obtaining horses and mules, or even camels if preferred, and going for long rides over the hills and wild roadless country. With Raisuli and his men on the warpath this is evidently not possible now. If they do not respect even Mr. Perdicaris certainly no one else is safe. In these circumstances, and in view of the treaty recently concluded between England and France, it may well be that this is the beginning of the end. The European intervention so long deferred may soon be at hand. It will not be an unmixed blessing. It may put an end to the special charm that Morocco possessed which was useful, not only to the artist in search of the original and beautiful, but also to the physician anxious to provide a complete mental change for his patient. On the other hand, it will be more easy to get the necessary sanitary works carried out and it is to be hoped that brigandage will be suppressed. Thus the ordeal Mr. Perdicaris is now enduring may prove beneficent to the community among whom he has lived for more than 30 years. It will have served, in any case, to show him how extensive and profound is the admiration his life's work has evoked. The press throughout Europe and America and his numerous personal friends have manifested the keenest sympathy and appreciation, and this also should give strength and consolation to his wife and family during this moment of trial and danger.

THE MEDICAL, SURGICAL, AND HYGIENIC EXHIBITION.

THE eighth annual exhibition was opened in the Queen's Hall, Langham-place, W., on May 24th. The fact that this annual exhibition has now reached its eighth year shows that a very general interest in it on the part of visitors has been maintained, and judging from the attendance of medical men, hospital nurses, and others it has evidently supplied a distinct want to those whose opportunities of inspecting the latest examples of progress in regard to drugs, foods, and medical and sanitary appliances are limited to exhibitions that take place within the metropolitan area. It is not surprising, therefore, that disappointment was generally expressed at the fact that the number of exhibits this year was decidedly smaller than on previous occasions, though in one or two sections there was a slightly increased representation. With few exceptions the examples of food preparations shown were quite well known to the profession and a great many of the exhibits comprising drugs were also familiar. In the sanitary section there were some novelties which we may briefly notice.

The preparation of the Denver Chemical Manufacturing Co. (110, Cheapside, London, E.C.) known as antiphlogistine was well represented. We have already pointed out in our analytical columns the composition of antiphlogistine. As a preparation for use externally in inflammatory conditions it has the advantage of being at the same time an antiseptic, a non-conductor of heat, and a vaso-motor stimulant. It is, in fact, a considerable advance on the ordinary poultice, its composition being based upon a better knowledge of the condition and requirements of swollen and sensitive tissues. It further possesses physical advantages over old methods and the theory of its therapeutic action is sound. Messrs. Burgoyne, Burbidges and Co. (12 and 16, Coleman-street, London, E.C.) exhibited an interesting series of preparations, including Von Heyden's pharmaceutical products. Amongst the latter may be mentioned creasotal (creasote carbonate) and duotal (guaiacol carbonate), which while exerting powerful germicidal effects are non-poisonous and non-corrosive and may therefore be safely administered internally. These preparations have been used with considerable benefit in the early stages of phthisis. The exhibit included some interesting antiseptic preparations of silver and acoine, a local anæsthetic of some repute. Ovo-lecithin (Billon, 16, Water-lane, Great Tower-street, London, E.C.) has already been described in our columns since which further experience has been gained of its value in disorders of nutrition, neurasthenia, and the like. The exhibit included examples of therapeutic serums and calf vaccines prepared by the Institut Pasteur (Lille, France). The serums exhibited were antivenum serum, antitetanus serum, and anti-diphtheritic serum. The Angier Chemical Co. (32, Snow-hill, London, E.C.) exhibited its emulsion and throat tablets; the composition of both preparations is based upon a specially purified petroleum. It is probable that the petroleum acts as a vehicle, while no doubt it is a sedative and demulcent and therefore is useful in inflamed or ulcerated conditions. The emulsion consists of petroleum with hypophosphites of lime and soda and pure glycerine. Messrs. C. de Trey and Co. (52, Shaftesbury-avenue, London, W.C.) exhibited specimens of somnoform manufactured by Mr. A. Rousseau, Bordeaux, which is described as a quick, simple, and safe anæsthetic. It consists of 60 per cent. of chloride of ethyl, 35 per cent. of chloride of methyl, and 5 per cent. of bromide of ethyl. It is said to have no action on the heart and not to produce asphyxia or cyanosis nor seriously to disturb respiration. Messrs. F. Newbery and Sons (27 and 28, Charterhouse-square, London, E.C.), exhibited the well-known pharmaceutical preparations of Messrs. W. R. Warner and Co., the list including an excellent series of granular effervescent salts and the malt preparations of Professor Trommer. Messrs. Cooper and Co. (80, Gloucester-road, South Kensington, London, W.) had a very attractively decorated stall on which were displayed their pure oxycarbonated mineral waters in porcelain-lined syphons as well as in ordinary bottles. The waters are prepared under pressure of both carbonic acid and oxygen gases, very pure distilled water being employed for the purpose. Besides soda, seltzer, and potash waters the following drugs may be employed in this pure aerated water: lithia, lisidin, lycetol, phenocoll, piperazine, and urotropine. The exhibit included a very excellent emulsion of cod-liver oil with lactophosphates and a preparation also of oxycarbonated fluid magnesia.

As has already been said, many of the food preparations were old and trusted friends as, for example, the preparations of the Peptenzyme Co., the Marmite Food Extract Co., the Shredded Wheat Co., Maltova, Limited, the Protene Co., the Maltine Manufacturing Co., Messrs. Van Abbot and Sons (diabetic foods), International Plasmon, Limited, Mr. Henry Nestlé (condensed milk and food), Messrs. Cadbury Bros. (cocoa), Messrs. Callard and Co. (starchless foods), Bovril, Limited, and Virol, Limited, the Hovis Bread and Flour Co., Cerebos, Limited, Liebig's Extract of Meat Co., and the Anglo-Swiss Milk Co. A comparatively recent introduction, however, is the preparation known as "galak"

dried milk of the "Galak" Milk Products Co. (118, Fenchurch-street, London, E.C.). In this process milk is distributed thinly and evenly between heated cylinders and emerges in a thin, slightly damp film which dries on cooling. The film is then passed through sieves by which it is reduced to a white flaky or granulated powder. On analysis it shows the composition of complete milk solids, including the whole of the fat. The preparation is said to be sterile and to give excellent physiological results. The preparation seems to be an important innovation, but evidence is wanted, we think, as to whether it possesses the anti-scorbutic properties of raw milk. Judging from the method of preparation, in which considerable heat is employed, it is not possible to conceive that the milk powder when dissolved in water has the same physiological properties as fresh uncooked milk.

Sanitary preparations were fairly well represented and amongst novelties may be mentioned the sphagnol preparations of the Peat Products Co. (71A, Great Russell-street, London, W.C.). Sphagnol is described as a combination of the antiseptic and emollient vegetable tars and oils obtained by the distillation of peat. It has been used with advantage in skin diseases. Amongst other preparations containing sphagnol were suppositories which are said to be serviceable in hæmorrhoids, an ointment used in eczema, a soap for ringworm, and other preparations helpful in the treatment of many conditions. The Pearson's Antiseptic Co., Limited (254A, High Holborn, London, W.C.), exhibited a number of antiseptic preparations which possess merits already pointed out in our analytical columns. The Jeyes' Sanitary Compound Co., Limited (64, Cannon street, London, E.C.), exhibited a number of antiseptic preparations the basis of which is "cyllin," formerly known as creolin. Bacteriological experiments have shown this coal-tar disinfectant to be a powerful germicide, whilst its toxic and caustic properties are relatively inappreciable. Similar claims are made for izal, which is the basis of a number of disinfectant preparations made by Messrs. Newton Chambers and Co. (Thorncliffe, near Sheffield). Petol, Limited (86, Cannon-street, London, E.C.), exhibited a number of articles, such as soaps, ointments, and suppositories, containing petol which is described as a vegetable base derived from peat. As an antiseptic and healing agent it has been employed in skin diseases.

A considerable assortment of surgical and hospital appliances was exhibited by the Holborn Surgical Instrument Co. (26, Thavies Inn, Holborn-circus, London, E.C.), while the Hospitals and General Contracts Co. (33, Mortimer-street, London, W.) exhibited aseptic aluminium tables for operating theatres or wards, besides also some sterilisers, one form being heated by means of the electric current. The Sanitary Wood Wool Co. (26, Thavies Inn, Holborn-circus, London, E.C.) exhibited its wood-wool preparations and the Cellular Clothing Co., Limited (72 and 73, Fore-street, London, E.C.), submitted to view various applications of its aertex cellular cloth; this material is porous besides being an excellent insulator. Mineral waters were represented in the exhibit of Camwal, Limited (112, Pembroke-street, Caledonian-road, London, N.), and in a very excellent display of pure waters prepared with great care as regards purity by Idris and Co. (Camden Town, London, N.W.). Arabella water has been comparatively recently introduced by Arabella, Limited (2, Hay-hill, Berkeley-square, London, W.). A feature of this water is that while it contains a large proportion of the sulphates of sodium and magnesium it is not so objectionable to the taste as are many bitter purgative waters. Amongst electrical apparatus may be mentioned the Gaiffe coil with the Carpentier-Gaiffe platinum interrupter shown by the Medical Supply Association (228, Gray's Inn-road, London, E.C.), and high-frequency and x-ray apparatus by Harry W. Cox, Limited (9, 10, and 11, Cursitor-street, Chancery-lane, London, W.C.). An interesting exhibit was that of Reinheimer and Co. (Surbiton, Surrey), who showed specimens of non-alcoholic wines which not long ago were analytically examined with favourable results in THE LANCET laboratory. Messrs. Greenlees Bros. (29 and 31, Commercial-street, London, E.) exhibited a miniature model of a pot still, but we could not gather whether they made any special claim for their whiskies as being all malt or blends.

Finally, several well-known medical publishers exhibited examples of recent medical and surgical literature on their stalls.

Looking Back.

FROM

THE LANCET, *SATURDAY*, May 27, 1826.

FOREIGN DEPARTMENT.

Discovery of Two Canals in the Vagina and Uterus. By Dr. GARTNER, of Copenhagen.—(*Annali Univ. di Med., March*, 1826.)

Dr. Gartner, in dissecting the uterus of the cow, found two singular canals, of which modern anatomists make no mention. They commence in the neighbourhood of the fallopian tubes, and open into the vagina near the meatus urinarius. They exist also in the sow; neither age nor gestation makes any difference; they are always present. In the sow, these canals commence by two openings situated on the sides of the orifice of the urethra, run obliquely from within outwards in the substance of the parietes of the vagina, and also a little upwards, thus describing a curve; in this course they receive lateral branches, coming from the neighbouring glands, the union of which forms a mass rather analogous in its external appearance to the pancreas; they diminish successively in size as they receive fewer of these small lateral ducts, and especially in the part of the parietes of the vagina which is continuous with the cornua of the uterus. They are always present, but their appearance varies; they appear more developed a short time after conception. In a sow, the uterus of which enclosed some fœtuses from two to three inches in length, the diameter of these canals was more considerable, and they extended, even in the substance of the broad ligaments, to within a few inches from the ovaries, where they apparently terminated in several small glandular granulations. The prolongation of these canals in the broad ligaments was very evident; their appearance was white and opaque, but it was easy to inject them with quicksilver; in some points they were considerably contracted, and appeared in some others completely obliterated.

In the cow, the vaginal orifice of these canals is larger, situated more in front, on the side of the meatus urinarius; these canals are continued the whole length of the lateral parietes of the vagina, nearly to a level with the orifice of the uterus, where they appeared all of a sudden to terminate; but an attentive examination showed, that they penetrate into the substance of the tissue of the neck of the artery, and re-appear on the uterus, on the surface of which, they, as it were, insensibly recover their existence, and are continued superiorly to the cornua of the uterus, and along their surface, to within a few inches from the ovaries. These vessels, or canals, are invariably to be found in the course which we have just mentioned. In some young cows, the uterine portion of these canals is so extremely fine, that it appears impermeable; in others, on the contrary, it is more or less dilated, and filled with a gelatinous and tenacious fluid, which presented the appearance of hydatids in the small dilatations. The portion of these canals which corresponds to the neck of the uterus is subject to several varieties, resulting principally from the age and the state of the gestation of the animal. The vaginal and uterine portions are both generally isolated, but the communication appears to be established through the medium of small glandular bodies, situated on the neck of the artery; sometimes, instead of these granulations, a real canal, laterally dilated, is found, in the parietes of which numerous vessels ramify, bearing some analogy to a common excretory duct. This disposition is very apparent in the adult cow. The distensions of a glandular appearance which are observed in this region, are sometimes very prominent, and filled with a gelatinous fluid. It is very rare that the canals which we have just described are alike in both sides of the neck of the uterus; most frequently a duct is found on one side only, and on the other glandiform granulations.

It is very probable that these two canals, or to use a better expression, these two organs, exert some influence on conception. Galen (in the article entitled, *de dissect. vulva* ch. ix.) appears to indicate something analogous to this anatomical fact. De Graaf (*opera omnia*) probably suspected the existence of similar organs in the uterus of the woman; perhaps the fasciculi of muscular fibres found by M. le Baron Cuvier in the cow, extending from the ovaries to the neck of

the uterus, bears some relation to these canals. Haller says nothing precise on the subject, but Malpighi (Epist ad Spont. p. 26.) expresses himself in such a manner, as to induce him to think that he understood these organs.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8570 births and 4532 deaths were registered during the week ending May 21st. The annual rate of mortality in these towns, which had been 16·3, 14·9, and 16·1 per 1000 in the three preceding weeks, had declined again to 15·5 per 1000 last week. In London the death-rate was 15·1 per 1000, while it averaged 15·6 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 6·9 in Northampton, 7·1 in Hornsey, 7·9 in Handsworth (Staffs.), 8·0 in Walthamstow, 9·4 in King's Norton, 9·6 in Reading, 10·1 in Plymouth, 10·5 in Croydon, and 10·6 in Willesden; while the highest rates were 19·6 in Manchester, 20·0 in Leeds, 20·4 in Preston, 20·5 in Blackburn, 20·6 in Tynemouth, and 21·7 in Norwich and in Birmingham. The 4532 deaths in these towns last week included 528 which were referred to the principal infectious diseases, against 527, 514, and 525 in the three preceding weeks; of these 528 deaths 182 resulted from measles, 182 from whooping-cough, 57 from diarrhœa, 45 from diphtheria, 30 from scarlet fever, 28 from "fever" (principally enteric), and four from small-pox. No death from any of these diseases was registered last week in Hastings, Bournemouth, Reading, Ipswich, Aston Manor, Wigan, Stockton-on-Tees, or Tynemouth; while among the other towns the highest death-rates from the principal infectious diseases were recorded in Brighton, Birmingham, Warrington, Manchester, Salford, Burnley, Blackburn, and Leeds. The greatest proportional mortality from measles occurred in Croydon, Walthamstow, Brighton, Manchester, Burnley, Leeds, and Hull; from scarlet fever in Hanley and in Warrington; from diphtheria in Great Yarmouth and in Merthyr Tydfil; and from whooping-cough in Birmingham, Coventry, Grimsby, Derby, Birkenhead, Warrington, Bury, Salford, Blackburn, and Leeds. The mortality from "fever" and from diarrhœa was not excessive in any of the large towns. Of the four fatal cases of small-pox registered in these towns last week one belonged to Nottingham, one to Oldham, one to Gateshead, and one to Cardiff. The number of small-pox patients remaining under treatment in the Metropolitan Asylums hospitals, which had been 104, 88, and 99 on the three preceding Saturdays, had declined again to 96 on Saturday last, May 21st; 18 new cases were admitted during the week, against 12, 14, and 26 in the three preceding weeks. The number of scarlet fever cases in these hospitals and in the London Fever Hospital was 1630 at the end of last week, against 1541, 1590, and 1600 at the end of the three preceding weeks; 222 new cases were admitted during the week, against 185, 242, and 239 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory system, which had been 224, 193, and 231 in the three preceding weeks, had declined again to 210 at the end of last week and were 26 above the number in the corresponding period of last year. The causes of 63, or 1·4 per cent., of the deaths in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Bristol, Bolton, Leeds, Newcastle-on-Tyne, Cardiff, and in 43 other smaller towns; the largest proportions of uncertified deaths were registered in Portsmouth, Reading, Norwich, Birmingham, Liverpool, St. Helens, Manchester, Rochdale, Blackburn, Sheffield, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 20·0, 18·0, and 17·9 per 1000 in the three preceding weeks, increased again to 18·7 per 1000 during the week ending May 21st, and was 3·2 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 13·0 in Leith and 16·2 in Aberdeen, to 20·0 in Perth and 23·2 in Greenock. The 619 deaths in these towns included 21 which were referred to whooping-cough, 16 to measles, 13 to diarrhœa, four to scarlet fever, two to small-pox, and two to diphtheria, but not any to "fever." In all, 58 deaths resulted from these principal infectious diseases last week, against 71, 64, and 75 in the three preceding weeks. These 58 deaths were equal to an annual rate of 1·8 per 1000, which was also the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of whooping-cough, which had been 22, 25, and 28 in the three preceding weeks, declined again last week to 21, of which ten were recorded in Glasgow, four in Aberdeen, three in Edinburgh, and three in Dundee. The deaths from measles, which had been 16 and 17 in the two preceding weeks, declined again to 16 last week and included 10 in Glasgow and three in Greenock. The fatal cases of diarrhœa, which had been 13, nine, and 15 in the three preceding weeks, decreased again last week to 13, of which seven occurred in Glasgow and three in Dundee. The four deaths from scarlet fever corresponded with the number in each of the two preceding weeks and included three in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 121, 100, and 90 in the three preceding weeks, rose again last week to 97, but were slightly below the number in the corresponding period of last year. The causes of 22, or nearly 4 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 20·8, 23·1, and 21·6 per 1000 in the three preceding weeks, rose again to 21·9 per 1000 during the week ending May 21st. During the past four weeks the death-rate in Dublin has averaged 21·9 per 1000, the rates during the same period being 15·5 in London and 17·4 in Edinburgh. The 159 deaths of persons belonging to Dublin registered during the week under notice were slightly in excess of the number in the preceding week and included 13 which were referred to the principal infectious diseases, against eight, 18, and 17 in the three preceding weeks; of these, five resulted from whooping-cough, two from measles, two from "fever," two from diarrhœa, one from scarlet fever, and one from diphtheria, but not any from small-pox. These 13 deaths were equal to an annual rate of 2·0 per 1000, the death-rates last week from the same diseases being 1·7 in London and 0·9 in Edinburgh. The fatal cases of whooping-cough, which had been three, 11, and ten in the three preceding weeks, further declined last week to five. The deaths from measles, which had been two, four, and two in the three preceding weeks, were again two last week. The fatal cases of "fever," which had been one, two, and three in the three preceding weeks, declined again last week to two. The 159 deaths in Dublin last week included 20 among children under one year of age and 41 among persons aged 60 years and upwards; the deaths both of infants and of elderly persons showed a considerable decline from the respective numbers recorded in the preceding week. Five inquest cases and three deaths from violence were registered, and 66, or more than two-fifths, of the deaths occurred in public institutions. The causes of three, or nearly 2 per cent., of the deaths registered in Dublin last week were not certified.

VITAL STATISTICS OF LONDON DURING APRIL, 1904.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious diseases it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 5·1 per 1000 of the population, estimated to be 4,648,950 persons in the middle of the year. In the three preceding months the rates had been 5·1, 4·8, and 4·9 per 1000 respectively. The rates were considerably below the average in Paddington, Kensington, Chelsea, the City of Westminster, Hampstead, and Woolwich; while they showed the largest excess in Finsbury, Shoreditch, Bethnal Green, Stepney, and Poplar. The prevalence of small-pox during April was slightly less marked than it had been in the preceding month; among the various metropolitan boroughs this disease was proportionally most prevalent in St. Marylebone, Stoke Newington, Shoreditch, Bethnal Green, Stepney, Poplar, and Bermondsey. The Metropolitan Asylums hospitals contained 104 small-pox patients at the end of last month, against 21, 31, and 126 at the end of the

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING APRIL, 1904.

(Specially compiled for THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1904.	NOTIFIED CASES OF INFECTIOUS DISEASE.										DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.										Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON...	4,648,950	109	811	518	—	79	2	15	283	—	1808	5·1	7	368	31	53	212	—	13	1	59	684	1·9	5784	16·2	118
West Districts.																										
Paddington	146,975	2	17	6	—	—	—	—	12	—	37	3·3	1	3	—	1	—	—	1	—	2	8	0·7	139	12·3	87
Kensington	179,236	1	6	13	—	2	—	1	8	—	31	2·3	—	13	1	2	3	—	—	—	2	21	1·5	205	14·9	147
Hammersmith	117,412	—	17	15	—	2	1	—	15	—	50	5·6	—	13	—	2	2	—	1	—	2	20	2·2	132	14·7	105
Fulham	152,482	—	20	16	—	3	—	—	4	—	43	3·7	—	7	1	2	8	—	1	—	6	25	2·1	191	16·3	140
Chelsea	74,329	—	9	6	—	—	—	—	4	—	19	3·3	—	—	—	—	5	—	—	—	1	6	1·1	90	15·8	125
City of Westminster	177,321	2	17	12	—	3	1	—	8	—	43	3·2	—	1	—	2	3	—	1	—	5	12	0·9	140	13·2	97
North Districts.																										
St. Marylebone	130,337	5	21	7	—	3	—	—	12	—	48	4·8	—	12	2	2	3	—	—	—	2	21	2·1	159	15·9	85
Hampstead	86,663	1	5	4	—	1	—	1	—	—	12	1·8	—	2	—	—	—	—	—	—	—	2	0·3	64	9·6	83
St. Pancras	235,936	—	63	32	—	2	—	—	7	—	104	5·7	—	17	3	4	12	—	1	—	3	40	2·2	283	15·6	116
Islington	341,044	4	84	30	—	8	—	1	12	—	109	4·2	—	25	4	1	10	—	2	—	3	45	1·7	402	15·4	114
Stoke Newington	62,445	4	8	3	—	—	—	—	1	—	16	4·0	—	1	—	—	3	—	—	—	—	4	1·0	54	13·4	77
Hackney	226,266	2	31	37	—	8	—	1	10	—	89	5·1	—	12	2	3	10	—	—	—	3	30	1·7	257	14·8	107
Central Districts.																										
Holborn	57,161	1	8	5	—	3	—	1	3	—	21	4·8	1	5	—	—	—	—	—	—	—	6	1·4	87	19·8	60
Finsbury	98,958	1	31	10	—	4	—	—	4	—	50	6·6	—	3	3	2	3	—	—	—	3	14	1·8	175	23·1	119
City of London	23,482	1	1	1	—	1	—	—	3	—	7	3·9	—	—	—	—	1	—	—	—	—	1	0·6	39	21·7	143
East Districts.																										
Shoreditch	117,033	5	42	12	—	2	—	—	10	—	71	7·9	—	8	1	3	5	—	—	—	2	19	2·1	187	20·8	116
Bethnal Green	130,207	18	48	43	—	—	—	—	10	—	119	11·9	1	11	1	3	6	—	—	1	1	24	2·4	171	17·1	114
Stepney	303,791	24	77	37	—	1	—	1	28	—	168	7·2	2	29	2	4	24	—	—	—	5	66	2·8	454	19·5	123
Poplar	169,905	13	35	51	—	4	—	1	10	—	114	8·7	2	21	2	5	9	—	—	—	1	40	3·1	261	20·0	148
South Districts.																										
Southwark	207,937	—	35	26	—	4	—	—	20	—	85	5·3	—	37	1	4	21	—	1	—	2	66	4·1	363	22·8	106
Bermondsey	129,39	6	31	8	—	2	—	—	12	—	59	5·9	—	20	—	1	11	—	—	—	1	33	3·3	206	20·7	131
Lambeth	310,359	5	43	28	—	6	—	2	22	—	106	4·5	—	14	3	2	15	—	—	—	2	36	1·6	383	16·1	97
Battersea	175,465	—	29	14	—	3	—	1	10	—	57	4·2	—	8	—	2	5	—	—	—	1	16	1·2	177	13·2	130
Wandsworth	257,443	1	36	36	—	8	—	1	14	—	96	4·9	—	6	—	5	2	—	2	—	3	18	0·9	258	13·1	99
Camberwell	268,384	2	59	19	—	3	—	2	13	—	98	4·8	—	20	1	1	20	—	1	—	2	45	2·2	312	15·2	148
Deptford	113,509	1	27	9	—	1	—	—	10	—	48	5·5	—	13	1	—	10	—	—	—	3	27	3·1	162	18·6	114
Greenwich	101,651	—	6	19	—	1	—	1	6	—	33	4·5	—	2	1	1	11	—	1	—	3	19	2·4	101	13·0	140
Lewisham	140,401	—	18	15	—	3	—	1	11	—	48	4·5	—	—	1	1	5	—	1	—	—	8	0·7	140	13·0	98
Woolwich	123,416	1	15	4	—	—	—	—	4	—	24	2·5	—	5	1	—	5	—	—	—	1	12	1·3	153	16·2	106
Port of London	—	—	—	—	—	1	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup.

three preceding months; the weekly admissions averaged 24, against four, six, and 31 in the three preceding months. During the period under notice no fewer than 2000 cases of chicken-pox were notified in London. Scarlet fever showed a slightly increased prevalence last month, the greatest proportional prevalence occurring in St. Pancras, Finsbury, Shoreditch, Bethnal Green, Stepney, Bermondsey, and Deptford. The number of scarlet fever patients under treatment in the Metropolitan Asylums hospitals, which had been 1626, 1560, and 1546 at the end of the three preceding months, had further declined to 1515 at the end of April; the weekly admissions averaged 173, against 182, 153, and 160 in the three preceding months. The prevalence of diphtheria was rather greater during April than in the preceding month; among the various metropolitan boroughs this disease was proportionally most prevalent in St. Pancras, Hackney, Bethnal Green, Poplar, Wandsworth, and Greenwich. The Metropolitan Asylums hospitals contained 718 diphtheria patients at the end of last month, against 752, 782, and 786 at the end of the three preceding months; the weekly admissions averaged 97, against 97, 107, and 94 in the three preceding months. Enteric fever, which had shown a continuous decline in the four preceding months, was still further reduced during April; the greatest proportional prevalence of this disease was recorded in St. Marylebone, Hackney, Holborn, Finsbury, Poplar, and Wandsworth. The number of enteric fever patients in the Metropolitan Asylums Hospitals, which had been 246, 166, 125, and 86 at the end of the four preceding months, had further declined to 62 at the end of last month; the weekly admissions averaged nine, against 30, 16, 15, and 11 in the four preceding months. Erysipelas was proportionally most prevalent in Hammersmith, St. Marylebone, the City of London, Southwark, Bermondsey, and Deptford. The 15 cases of puerperal fever notified during the month included two in Lambeth and two Camberwell.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various metropolitan boroughs, the deaths occurring in public institutions having been distributed among the various boroughs in which the deceased persons had previously resided. During the four weeks ending April 30th the deaths of 5784 persons belonging to London were registered, equal to an annual rate of 16·2 per 1000; in the three preceding months the rates had been 17·2, 18·2, and 16·7 per 1000. The lowest death-rates in London last month were 9·6 in Hampstead, 12·3 in Paddington, 13·0 in Greenwich and in Lewisham, 13·1 in Wandsworth, 13·2 in the City of Westminster and in Battersea; and 13·4 in Stoke Newington; the highest rates were 20·0 in Poplar, 20·7 in Bermondsey, 20·8 in Shoreditch, 21·7 in the City of London, 22·8 in Southwark, and 23·1 in Finsbury. The 5784 deaths from all causes in London last month included 684 which were referred to the principal infectious diseases; of these, seven resulted from small-pox, 308 from measles, 31 from scarlet fever, 53 from diphtheria, 212 from whooping-cough, 13 from enteric fever, one from simple continued fever, and 59 from diarrhœa. The lowest death-rates from these diseases were recorded in Paddington, the City of Westminster, Hampstead, the City of London, Wandsworth, and Lewisham; and the highest rates in Bethnal Green, Stepney, Poplar, Southwark, Bermondsey, Deptford, and Greenwich. Of the seven fatal cases of small-pox registered last month two belonged to Stepney, two to Poplar, and one each to Paddington, Holborn, and Bethnal Green. The 308 deaths from measles were slightly in excess of the average number in the corresponding periods of the ten preceding years; this disease was proportionally most fatal in Hammersmith, St. Marylebone, Stepney, Poplar, Southwark, Bermondsey, and Deptford. The 31 fatal cases of scarlet fever showed a decline of 15 from the corrected average number; among the various metropolitan boroughs the highest proportional fatality from this disease occurred in St. Marylebone, St. Pancras, Islington, Finsbury, and Lambeth. The 53 deaths from diphtheria were less than one-half of the average number in the corresponding periods of the ten preceding years; this disease was proportionally most fatal in Finsbury, Shoreditch, Bethnal Green, Poplar, Southwark, and Wandsworth. The 212 fatal cases of whooping-cough showed a decline of 19 from the corrected average number; among the various metropolitan boroughs the greatest proportional mortality from this disease occurred in Chelsea, Stepney, Southwark, Bermondsey, Camberwell, Deptford, and Greenwich. The deaths from "fever," which had averaged 27 in the corrresponding periods of the ten preceding years, numbered only 14 last month; the highest death-rates from "fever" were recorded in Paddington, Hammersmith, Fulham, Islington, Greenwich, Lewisham, and Wandsworth. The 59 fatal cases of diarrhœa were 10 in excess of the corrected average number; among the various metropolitan boroughs this disease was proportionally most fatal in Fulham, the City of Westminster, Finsbury, Deptford, and Greenwich. In conclusion, it may be stated that the aggregate mortality in London last month from the principal infectious diseases was nearly 15 per cent. below the average.

Infant mortality, measured by the proportion of deaths among children under one year of age to registered births, was equal to 118 per 1000. The lowest rates of infant mortality were recorded in Paddington, St. Marylebone, Hampstead, Stoke Newington, and Holborn; and the highest rates in Kensington, Fulham, the City of London, Poplar, Southwark, Camberwell, and Greenwich.

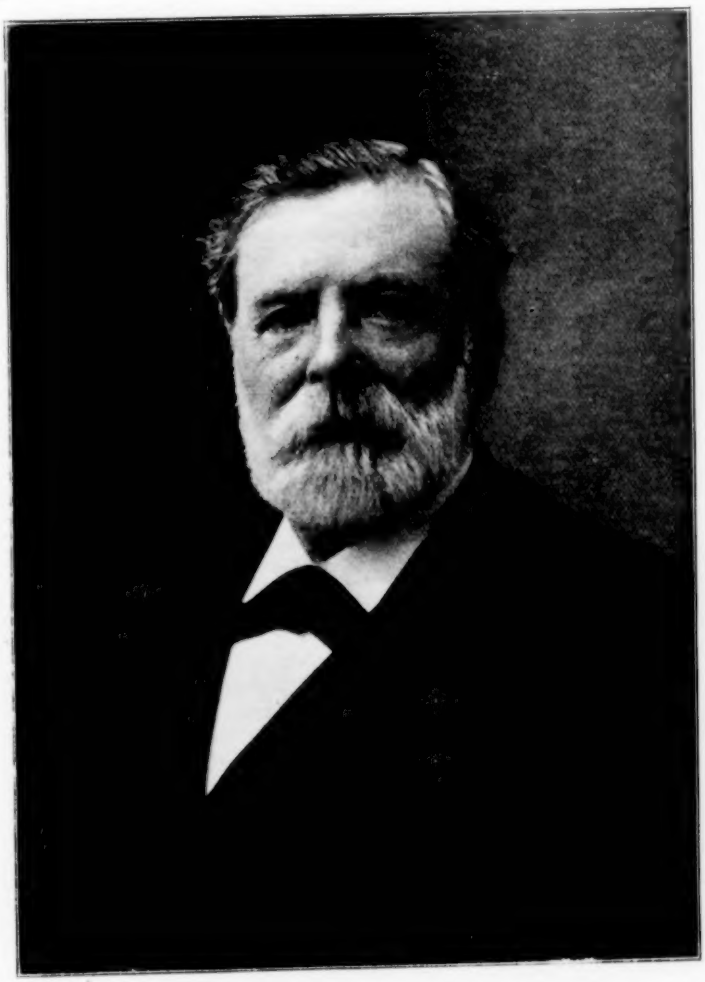
Obituary.

ÉTIENNE J. MAREY,

PROFESSOR IN THE COLLÈGE DE FRANCE, PARIS, AND MEMBER OF THE INSTITUTE.

By the death of Professor Marey, which took place at Paris on May 16th, the scientific world is the poorer. Physiology has lost one of its brightest ornaments, a worker who did much to extend its boundaries and added much to the means whereby man is enabled to analyse the secrets of nature, and, above all, to investigate the phenomena of motion as manifested in "organised beings." Marey was the occupant of the chair entitled "The Natural History of Organised Beings" in the Collège de France. He was born in 1830 in the department of the Côte d'Or. He, however, pursued his studies in Paris and after competition he became an *interne* in the Paris hospitals. In his thirtieth year in the fiftieth volume of the *Comptes Rendus*, he published a modest but very important paper, entitled "Recherches sur la forme et la fréquence du pouls au moyen d'un nouveau sphygmographe ou appareil enregistreur des pulsations." This same subject formed his graduation thesis. This year marks the invention of Marey's sphygmograph and this invention at once brought his name before the scientific world.

The graphic method was founded before 1850. Ludwig had invented his kymograph. Helmholtz in 1850 had measured the velocity of a nerve impulse in the motor nerve of a frog and previously he had recorded and analysed a muscle curve. Vierordt had made an attempt to record the pulse by means of a complicated heavy instrument constructed of three levers, on the principle, as Marey described it, "of the parallelogram of Watt" which he called a sphygmograph. Vierordt had also tried to estimate the velocity of the blood in the arteries. The kymograph of Ludwig, as Marey pointed out, requires a vivisection. Marey's endeavour was to construct an instrument whereby not only the frequency but also the form of the pulse-wave could be determined. He did so and retained for it the name invented by Vierordt. Vierordt's apparatus on account of its inertia did not follow the changes of form of the pulse-wave at each beat; it gave merely the sequence or frequency of the beats. The use of a light lever applied to an accessible artery and kept applied to it at a given pressure by means of a spring is the principle of the lever of the sphygmograph of Marey who was fortunate in finding in Paris in Breguet, the famous clock-maker, some one to construct the recording apparatus on which the lever made its trace. The graphic method from 1860 onwards was greatly extended by Marey. He applied himself to the study of the phenomena of the circulation and respiratory movements, and invented various forms of cardiograph to record the heart's impulse, manometers to measure the blood pressure, besides pneumographs, stethographs, thermographs, and myographs. By using tambours filled with air which were applied over a moving part—receiving tambours—he was able to transmit movements in tubes filled with air to recording tambours



PROFESSOR E. J. MAREY.

and thus to register movements at a distance. The cardiographic records of the beat of the heart obtained by Marey and Chauveau in 1863 are to be found in every text book of physiology. They introduced a "cardiac sound" through the external jugular vein of a horse and by means of a series of air filled ampullæ were able to record the rate, sequence, force, and duration of the events that make up a cardiac cycle. Thus, as Marey pointed out, movements inaccessible to touch and sight were made visible and could be recorded. Muscular contraction was also studied by means of a simple myograph and so were the movements of man and animals, the mechanism of walking and all forms of progression; the flight of birds and insects was submitted to accurate scientific analysis by means of this method.

Marey had the great merit of introducing into France the graphic method in its application to biological problems. He developed and extended its usefulness and made a method of the laboratory the common property of every clinician and medical practitioner. In 1875 Marey made the important discovery of the refractory period of the heart. Bowditch had shown the phenomenon of the "treppe," or staircase, and had previously defined adequate and inadequate stimuli for the heart by means of a frog manometer. Marey arrived at his results by recording the beat of the frog's heart by means of a special *pince cardiaque*. He published many papers in the various journals and in the *Comptes Rendus*. His works on the "Circulation of the Blood," on "Movement," "Animal Mechanism," and "The Graphic Method" are familiar to every physiologist. He applied the photographic method extensively for the study of movements, as in the flight of birds and progression in man and animals. With him instantaneous photographs became the handmaiden of analytical science.

Marey, although trained as a physician, soon diverted to the study of physiology or at least to that department of it which he cultivated with such success. He was elected to the chair in the Collège de France in 1867 previously held by Flourens, and this enabled him to pursue his studies in his own way. His investigations were made chiefly on physical lines; he left out of count the chemical problems and those of histology. Some years ago he ceased to lecture, though he continued his investigations, his lectures being undertaken by François-Franck. For over a year Marey had but indifferent health; he suffered from gall-stones and also from phlebitis. Throughout his illness he, however, still maintained his interest in the affairs of the Collège and in those of the Académie des Sciences. Marey, by his character, by his personal attraction, by his work, by his discoveries, and by his modesty, was a man who was beloved by all who had the pleasure of knowing him. His fame will rest on his successful endeavour to apply the graphic method to the investigation of biological science.

THE PROPOSED NEW BELLEVUE HOSPITAL IN NEW YORK CITY.

By the courtesy of the editors of the *New York Medical Journal* and of the *Philadelphia Medical Journal* we have been favoured with advance proofs of a description of the proposed new Bellevue Hospital and with an illustration of the same which we reproduce. The following details give the salient points of the proposed building. It is designed to occupy three full city blocks, from Twenty-sixth to Twenty-ninth streets and First Avenue to the East River. It is claimed that it will be the largest, handsomest, and most completely equipped hospital in the world and will accommodate some 2500 patients. Quarters are to be provided for over 100 physicians. The building material is to be Harvard brick with light stone trimmings. The building is to be H-shaped and from the prospectus that has been prepared by the architects is not in general outline unlike the Capitol in Washington. The main part of the building will be 150 feet or more back from the river, and the wings running out on each side will form a large court. The 13 pavilions will be under one roof, but between them will be covered arcades to allow a free circulation of air. Only four of the pavilions will face on First Avenue, and they will be used for the alcoholic, insane, and other psychopathic patients, leaving to the others the benefit of the view and the air on the river. With the exception of the dome over the main part of the building and the curved roofs over four of the pavilions, which the architects, it is said, have added to accentuate the pavilions and to lend architectural support to the dome, all the roofs are flat. Roof gardens will be used by convalescent patients who will be carried directly to the roof in seven elevators. These roof gardens will have temporary wards which will accommodate 100 patients. The roof will be surrounded by a parapet four feet in height. The five upper floors of the south wing will contain the medical wards. The limit of each ward will be 25 patients, but several rooms will be connected with each and may be filled with beds if necessary. The service rooms connected with every ward will be complete and modern in equipment. A pavilion which will be near the present entrance to the hospital will have the three lower floors given over to the ambulance department and carriage house. The upper part will contain the medical amphitheatre with accommodation for 200 students. The five upper floors of the north wing

Eastern front of proposed new Bellevue Hospital.

will contain the surgical wards. The surgical amphitheatre will be equipped with ten small operating rooms all within easy access of the various wards and complete in every detail. The hydropathic department, designed to surpass that of any public or probably even private institution and to contain bathrooms for both employés and patients, will be on the ground floor of the central pavilion. It will be equipped with all modern apparatus for the treatment of disease by water and will be one of the most remarkable new features of the hospital. There will also be an elaborate system of balconies on all sides of the hospital. Each of the 92 wards will have either an open or an inclosed balcony of sufficient size to accommodate all the patients in each ward at one time. Two enormous covered arcades facing the river will accommodate all the patients in the hospital at one time if necessary.

THE SERVICES

ROYAL NAVY MEDICAL SERVICE.

IN accordance with the provisions of Her late Majesty's Order in Council of April 1st, 1831, Fleet Surgeon John Dowson has been placed on the Retired List (dated May 14th, 1904) and Fleet Surgeon Henry Harries has been placed on the Retired List at his own request (dated May 21st, 1904).

ROYAL NAVAL VOLUNTEER RESERVE.

The undermentioned appointments have been made:—Robert Meredith Littler to be Surgeon. Honorary Surgeon Charles O'Brien Harding to be Honorary Staff Surgeon (dated May 17th, 1904).

ROYAL ARMY MEDICAL CORPS.

Lieutenant N. E. Dunkerton, from the Seconded List, to be Lieutenant (dated May 2nd, 1904). Lieutenant-Colonel R. C. Gunning retires on retired pay (dated May 25th, 1904). Lieutenant-Colonel J. T. Carey retires on retired pay (dated May 25th, 1904). Surgeon-Major W. C. Beevor, C.M.G., from the Scots Guards, to be Major, with seniority next below R. J. A. Durant (dated May 25th, 1904).

INDIAN MEDICAL SERVICE.

The King has approved of the following promotions among officers of the Indian Medical Service made by the Government of India:—Captains to be Majors (dated Jan. 30th, 1904): *Bengal Establishment:* Bruce Gordon Seton. *Madras Establishment:* Robert Henry Elliot, Robert King Mitter, and Wilfred Ernest Arbuthnot Armstrong. Lieutenants to be Captains (dated Jan. 29th, 1904): Charles William Francis Melville, Robert McCarrison, James Masson, Norman Septimus Wells, William Morris Anderson, Edmund Hamilton Blake Stanley, William Hugh Leonard, Andrew Watson Cook Young, James Graham Goodenough Swan, Robert McLauchlan Dalziel, James Jackson Robb, Shaik Abdur Razzak, and Robert Basil Boothby Foster.

The King has also approved of the retirement from the service of the undermentioned officers: Colonel Christopher William Carr Calthrop (dated April 2nd, 1904) and Lieutenant-Colonel Thomas Henry Pope (dated March 1st, 1904).

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Major J. Adam to be Surgeon-Lieutenant-Colonel (dated May 3rd, 1904). Surgeon-Captain J. H. G. Whiteford to be Surgeon-Major (dated May 7th, 1904).

VOLUNTEER CORPS.

Bide: 2nd Volunteer Battalion the Northumberland Fusiliers: Supernumerary Surgeon-Lieutenant (Honorary Lieutenant in the Army) J. Clay to be Surgeon-Captain (dated May 21st, 1904). 1st Volunteer Battalion, the Northamptonshire Regiment: William Peart Thomas to be Surgeon-Lieutenant (dated May 21st, 1904).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

The Manchester Companies: Lieutenant W. R. Matthews to be Captain (dated May 21st, 1904), and Harry Washington Pritchard to be Lieutenant (dated May 21st, 1904).

THE ROYAL MILITARY TOURNAMENT.

The Royal Military Tournament, now being held at the Agricultural Hall, Islington, N., has become one of the events of the London season and this year promises to eclipse all previous exhibitions excellent though they have been. The pageant represents the rise of the Royal Artillery from the days of the Black Prince to the present time, and for novelty there is "push-ball" with mounted players. A very satisfactory feature of the present tournament is the wider scope which has been allowed to the Navy to exhibit its wonderful agility and smartness, qualities which the public are never tired of witnessing. Surgeon-Lieutenant-Colonel W. R. Crooke-Lawless of the Coldstream Guards is the Principal Medical Officer.

THE WAR IN THE FAR EAST.

Amid the various rumours and often conflicting statements that are being published in the press of this and other countries it is extremely difficult, if not altogether impossible, to form any adequate idea of what is actually taking place in the Far East. We know little or nothing of the numerical strength of the Russian forces (except that they are big) or of what has become of the vast reinforcements alleged to have been sent east along the Siberian railway; and with regard to the strength and disposition of the Japanese forces in the field we can only form a very rough approximate estimate, while we know next to nothing of their strategical movements. The situation must always be read by the light of accomplished facts in the past and with the aid of maps and the exercise of a good deal of the "scientific imagination." The educated classes in Russia are said to have lost all faith in the official reports from the scene of war, but at the present time we are nevertheless learning more of the whereabouts of the Japanese from Kouropatkin than from Japanese sources. Whatever may have been the losses which the belligerent armies of both sides have suffered up to the present time, it is scarcely conceivable that these should not mount up to a grave total as the war goes on and the heat increases. We must remember possible outbreaks of epidemic sickness, the privations incident to warfare, and the neglect of hygienic precautions or, what amounts to the same thing, the impossibility of carrying them out under the conditions of such a war as that now going on. General Kuroki reports that the exact number of Japanese casualties in the battle of the Yalu was 318 killed, including five officers; and 783 wounded, including 33 officers. The Russian dead buried by the Japanese numbered 1363, whilst there are 613 prisoners. There does not seem to have been any fighting on a big scale since that on the Yalu and to be decisive in character in such a war as this big fighting must occur. Losses in affairs of outposts and reconnaissances are to be expected, but they only serve at best to indicate the preliminary movements of the belligerents and the possible site of a coming battle.

Information is forthcoming from the chief military medical committee that the organisation of measures to combat possible outbreaks of infectious diseases in the Russian army in the Far East is completed. Disinfecting chambers are already at the theatre of war and a large quantity of vaccine lymph has gone forward. Between the outbreak of war and May 1st there have been only three cases of small-pox at Chita, 14 at Verchneudinsk, and 15 at Allanse. Orders have been issued that all spring waters used by the troops are to be carefully guarded, and if water must be taken from wells such water must first be tested by medical men.

On May 14th a gathering of medical men in St. Petersburg entertained and féted Dr. M. N. Chrabrostina and Dr. M. L. Banschikova of the ill-fated warships *Variag* and *Koreetz* respectively that were destroyed by the Japanese at Chemulpo. Accompanied with appropriate compliments they were presented with gold medals inscribed "To the honoured guest."

The *Novoe Dnya* of Kieff reports that of the 30 medical men of the reserve forces just called up in the Kieff military district 26 were Jews.

On May 14th, according to the *Novosti*, there were in the Red Cross hospitals in the Far East 6200 beds, whilst 2070 were on the way and 2700 were in preparation.

The *Novoe Vremya* reports an outbreak of fire at the headquarters of the Russian Red Cross Society in St. Petersburg on May 16th. The fire, which broke out at 7 P.M., was checked by the firemen on the third floor where it broke out.

A *Times* telegram states that Dr. Hashimoto, the Emperor of Japan's physician, Dr. Sato, and Dr. Kikuchi have been appointed superintendents respectively of the Tokio, Hiroshima, and Matsuyama military hospitals.

THE TIBETAN MISSION.

In the *Times* of May 24th a special correspondent resumes

his interesting description of the advance of the Tibetan Mission to Gyargtse and in doing so pays a tribute to the work of the Indian Medical Service. After the recent fight at the Hot Spring General Macdonald remained for three days at Thuna, says the writer, and then moved on to Guru, "passing over the scene of the sudden climax of the previous Thursday. There were, indeed, still some ugly traces of the tragedy, but everything that was possible had been done to restore the quiet shores of the Bam Tso to their usual quiet aspect, and it reflects no small credit upon the management of the Indian Medical Service that the wounded of the enemy were already so well cared for that numbers of wounded Tibetans had of their own motion applied for treatment by ourselves at Guru and the Hot Spring. Only the night before one or two had evidently been unable to drag themselves further and had fallen and died within a few hundred yards of our outposts. Many of the prisoners declined to accept their freedom and have remained at their own urgent request as coolies or dhooly-bearers in our service." Describing Kala Tso, which is the remnant of a vastly greater lake, the *Times* correspondent says: "The most remarkable thing was the evidence of a very large population in earlier days which the almost continuous string of ruined walls and villages supplied. For a space of nearly two miles the hillside of the road—which clings still to the mountains in avoidance of the now vanished lake—is marked by a wilderness of great round building pebbles dropped from the walls and houses of a lost civilisation, and still marked by lines of crumbling structure held together in the semblance of their first shape by dry layers of mud mortar. As with most things in Tibet, there are many reasons suggested for this wholesale desertion. Small-pox, the subsidence of the lake, the Mongol invasion, the ultimate inability of the inhabitants to adjust themselves to so wretched and inhospitable an environment, perhaps also the closing of the trade routes over the Sikkim passes—all may have had their effect."

THE AMIR OF AFGHANISTAN'S LATE INJURY.

The political value and importance attaching to the professional services which medical officers in India have from time to time rendered occupy a place in the past history of that country. The latest instance to be added to the record is that connected with the Amir of Afghanistan. His Highness wounded his left hand last month by the accidental explosion of a firearm and the injury was followed by the formation of an abscess, a process which was naturally attended with considerable pain. The Amir applied for the services of a European surgeon, whereupon Major R. Bird, the surgeon attached to the staff of the Viceroy of India, journeyed to Cabul and did all that was surgically speaking necessary for the rapid relief of the patient, who has expressed the greatest gratification for the services rendered.

THE PRIVATE FEES OF GOVERNMENT MEDICAL OFFICERS IN INDIA.

On page 1538 of our present issue our Special Correspondent in India gives the text of a notification of the Governor General in Council regarding the remuneration of medical officers for attendance on native chiefs, nobles, and native gentlemen of high position in a native State. The notification is one having an important bearing.

The latest report of the Sanitary Commissioner of India states that 29 per cent. of the mortality of the Indian European Army is due to enteric fever.

DEVON AND EXETER BENEVOLENT SOCIETY.—At the annual meeting of this society held at Plymouth on May 12th under the presidency of Dr. E. B. Thomson grants were made to four widows who applied for assistance. This society was founded in 1806 for the benefit of widows and orphans of medical men who have practised in the city of Devon and who have failed to leave adequate provision for their families upon their decease. The annual subscription is small and the benefits are great. Canvassing for votes is not necessary. All urgent cases are immediately relieved. At the next annual meeting such claims are considered and a yearly grant is made which is regulated according to the available funds of the society. There is a considerable funded property of over £3000, the interest of which, together with the subscriptions, is divided amongst the beneficiaries. The secretary is Mr. G. Fortescue Webb of Moretonhampstead, Devon, who will give further information respecting the society upon request.

Correspondence.

"Audi alteram partem."

THE TENURE OF OFFICE OF THE MEDICAL OFFICER OF HEALTH.

To the Editors of THE LANCET.

SIRS,—The letters upon the above subject which have been appearing in recent issues of THE LANCET disclose conditions which ought not to be allowed to continue and I echo the sentiment of one correspondent in hoping that you will assist us in securing reform. As one of the honorary secretaries of the Incorporated Society of Medical Officers of Health I have perhaps exceptional opportunities for knowing how much the public generally suffer in some districts because the medical officer of health has to trim his reports to suit the whims of members of the council which elects him. The President of the Local Government Board is, I believe, in sympathy with us to a certain extent, but I cannot think he is altogether aware how much public health administration in small towns and rural districts is handicapped owing to the ease with which a medical officer of health who is not sufficiently complacent can at present be got rid of. If Mr. Long would institute a confidential inquiry among medical officers of health I am convinced that he would realise that some alteration ought to be made not solely in the interests of the medical officer of health but so that the Public Health Acts may be administered in a less lax manner than is the case now in many parts of England and Wales.

I am, Sirs, yours faithfully,

Hereford, May 24th, 1904. HERBERT JONES.

To the Editors of THE LANCET.

SIRS,—My own experience on this subject may be of interest to your readers. In March, 1901, I was appointed medical officer of health to a large combined district for a period of three years. The area comprises four urban and five rural districts. The appointment was a whole-time one but carried with it the post of medical superintendent to a joint hospital board. My predecessors have been appointed or reappointed for periods of either three or five years. About three weeks before the expiration of my term of office delegates from the various councils met to consider my reappointment. The delegate from *one* of the councils at once informed the committee that the council which he represented would refuse to remain in the combination should the reappointment be made for more than one year. No reason was assigned for this action. The other delegates thought it better to agree rather than run the risk of breaking up the combination. The Local Government Board professed to be unable or unwilling to interfere but expressed the hope that a longer term would be substituted at the next reappointment.

I am, Sirs, yours faithfully,

May 18th, 1904. X. Y. Z.

MEDICAL DEFENCE: A PARALLEL.

To the Editors of THE LANCET.

SIRS,—A parallel occurs to me:—

"A good deal has been said to-day about the man who is not a member of the British Medical Association. I venture to say I have no sympathy with him; he ought to be; and if he does not choose to come into a scheme of this sort let him stay out."—Dr. G. A. Heron at the meeting of the South-West (Wandsworth) division of the British Medical Association.

Sec. Watch: How if a' will not stand?

Dogberry: Why, then, take no note of him, but let him go; and presently call the rest of the watch together, and thank God you are rid of a knave.—*Much Ado about Nothing*, act iii., scene iii.

I am, Sirs, yours faithfully,

May 23rd, 1904. F. BACON.

A WORD OF THANKS.

To the Editors of THE LANCET.

SIRS,—May I through the medium of THE LANCET thank all those who sent me votes for Mrs. Georgina Skinner for the Royal Masonic Benevolent Institution for the Widows of Freemasons and for their response to the appeal which was

published in THE LANCET of April 30th? The election took place on Friday last and our candidate was successful with 3809 votes, being third of the 35 (from a list of 63 candidates) who were elected to receive the benefits of the institution.—I am, Sirs, yours faithfully,

HAROLD S. SINGTON
Secretary, St. Luke's Medical Lodge of Instruction.
St. Mary's Mansions, W., May 25rd, 1904.

A SLIP.

To the Editors of THE LANCET.

SIRS,—I shall be much obliged if you will kindly insert the following statement in your next issue. In my address to the Royal College of Physicians on March 28th I inadvertently spoke of Dr. George Oliver, who has recently founded and endowed the Oliver-Sharpey lectureship at the Royal College of Physicians of London, as *formerly* of Harrogate, an expression which may, I am afraid, lead the Fellows of the College and others who may see my address to conclude that Dr. Oliver has left Harrogate. He informs me that he has no intention of leaving and that he will in the future, as during the last 15 years, reside and practise as a consulting physician in Harrogate during the summer months from June to October. Regretting the mistake I made and the annoyance I fear it has occasioned to our benefactor, I am, Sirs, yours faithfully,

Bellerst, Northumberland, May 24th, 1904. W. S. CHURCH.

SEPTIC CONJUNCTIVITIS.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Nov. 7th, 1903, you published some clinical notes I had made on a condition I described as "septic conjunctivitis." My attention has recently been drawn to an article by Parinaud on Infective Conjunctivitis and a review thereof in the May number of the *Ophthalmic Review*. The description given corresponds exactly with what I gave in my paper—constitutional disturbance, resemblance to trachoma, ptosis, non purulent discharge, affection of the preauricular glands, usually uniocular, therefore probably not very contagious, suggestion of animal infection, and slow complete recovery. No one reading the two accounts could doubt for a moment that the same condition was being described. The point to which I wish now to draw attention is that it is by no means so rare a condition as is suggested by the article in question which states that 20 cases only of this disease have been hitherto recorded, for even in my own practice I have had certainly over 20 cases. The explanation is that this disease is not, as I have before pointed out, differentiated in the English text-books on ophthalmology, so far as I have read, and I venture to suggest that those responsible for future editions would do well to give attention to this point.

I am, Sirs, yours faithfully,

Weymouth-street, W., May 24th, 1904. ROBERT W. DOYNE.

BURNING FROM THE X RAYS.

To the Editors of THE LANCET.

SIRS,—In the recent trial of the case of Smith v. Pare it was stated that the burns caused by the x rays are the most intractable known. In my experience at this hospital I have not found it so, although at first I certainly had some difficulty in curing them. But since I have used the following ointment I have found them amenable enough to treatment and the dermatitis soon disappears. Formula: Plumbi oxidum, one drachm; zinci carbonas, two drachms; glycerinum, one drachm; oleum olivæ, half a drachm; adeps benzoatus, to one ounce. The ointment to be applied freely.

I am, Sirs, yours faithfully,

H LYLE,
Senior Surgeon to the Liverpool Hospital for
May 24th, 1904. Cancer and Skin Diseases.

THE OLD HARDSHIP OF LONDON MEDICAL STUDENTS.

To the Editors of THE LANCET.

SIRS,—In reply to your correspondent "Hard Lines" in THE LANCET of May 21st, I should like to point out that, though everyone will sympathise with him in his inability to pass all the final subjects at one time and more especially on account of the untoward circumstances which prevented him taking the examination at a time when he would perhaps have found it easier to do so, the position really only emphasises the greater amount of sound knowledge required for the degrees of those universities where the system of requiring all the final subjects to be passed at the same time obtains. It is comparatively easy to cram up one subject, to pass in that, and then while partially forgetting this to go on to another. It is surely most important that a man should be able to retain a good knowledge of all the final subjects and those who have shown themselves able to do so, whether from harder work, longer study, or greater ability, have a right to have the fact recognised to some extent I am, Sirs, yours faithfully,

May 25rd, 1904. JUSTICE TO ALL.

THE GERMAN CONGRESS OF INTERNAL MEDICINE.[1]

(FROM OUR BERLIN CORRESPONDENT.)

THE German Congress of Internal Medicine met this year at Leipsic from April 18th to 21st, Dr. MERKEL (Nuremberg) being in the chair. The official subject of discussion was

Arterio sclerosis.

Professor MARCHAND (Leipsic) said that arterio-sclerosis was a degenerative process, although inflammation or production of new tissue might sometimes happen. A distinction must be made between arterio-sclerosis, hypertrophy of the media, and syphilitic arteritis. Arterio-sclerosis was caused by functional hyper-exertion of the vessels and by accidental general or local causes, such as general impairment of nutrition, toxic and infectious processes, heredity, and influence of temperature. A certain form of sclerosis of the aorta, especially of the media and intima, was caused by syphilis and in some cases gumma might develop in the walls of the aorta; this form was termed meso-aortitis productiva (Chiari). Superficial atheromatous degeneration of the intima of the aorta in youthful individuals must be regarded as a symptom of the process. The degeneration of the elastic elements produced a more or less diffuse extension of the walls of the artery. Arterio-sclerosis was not seldom associated with hypertrophy of the left ventricle as a sequel to the general increase of resistance in the circulation. The process should be termed athero-sclerosis or sclero-atherosis of the arteries.

Professor ROMBERG (Marburg) said that the most important alteration of sclerosed arteries was the deficient elasticity which was somewhat overcome by aneurysmal dilatation of the lumen; the circulation was also hindered by the narrowing and lengthening of the sclerosed arteries. A slight hypertrophy of the left ventricle was somewhat rare and was present only in marked sclerosis of the aorta and the splanchnic arteries. With regard to the symptoms of arterio-sclerosis he said that sclerosis of the coronary arteries might produce angina pectoris and cardiac asthma; sometimes the disease showed only the uncharacteristic symptoms of chronic cardiac failure. The kidneys were sometimes affected with chronic interstitial inflammation complicated by insufficiency of the hypertrophied heart. The effects produced on the nervous system included neurasthenic troubles which occurred in the primary stage and might eventually lead to insanity. Diseases of the sensory organs and of the gastro-intestinal canal were rare. The resulting disorders of the nerves of the extremities and the general vaso-motor neuroses were very interesting; intermittent claudication might be the first symptom of arterio-sclerotic gangrene. For the localisation of the disease in the different parts of the body the functional effects were important and not merely the anatomical lesions. Apart from general bodily over-fatigue substances which acted injuriously on the nervous system might cause the disease; over indulgence in tobacco, spirits, coffee, and tea was especially prejudicial because they produced considerable alterations in the tonicity of the blood vessels. Arterio-sclerosis was not due to senility

[1] For this report we wish to tender our thanks to the editor of the *Deutsche Medicinische Wochenschrift*, through whose courtesy it has been forwarded to us by our correspondent.

but to exhaustion. Everything which tended to diminish the strength must therefore be avoided. Sufficient sleep and rest, with limitation of tobacco, spirits, coffee, and tea, should be recommended and residence in the country was desirable. Meat should be eaten sparingly. With regard to spa treatment, alkaline waters and those containing chloride of sodium were the most advisable. The administration of potassium iodide was excellent in the early stages of the disease, in attacks of angina, and in cardiac failure. It must, however, be remembered that the drug was unable to cure the anatomical lesions. It should be given in small doses for a somewhat long time. There were no other medicines of much use in arterio-sclerosis. Nitrites and nitro-glycerine only relieved symptoms. Digitalis and strophanthus might be given but in small doses only. Bathing in water charged with carbonic acid gas was beneficial in the beginning of cardiac insufficiency or in partial recovery after serious attacks. Gymnastic methods of strengthening the heart were useful only during convalescence or in the case of corpulent patients.

Professor KLEMPERER (Berlin) directed attention to the fact that arterio-sclerosis was prevalent in the medical profession because the work of the medical man often prevented him from having sufficient rest and regular meal times.

Professor VON NOORDEN (Frankfort) recommended a 5 per cent. alcoholic solution of nitro-glycerine in cases of arterio-sclerosis with high blood pressure. He saw sometimes the pressure decrease from 200 to 120 millimetres of mercury, the effect lasting for from eight to 14 days. The recommendation made by Dr. Rumpf—namely, the exclusion of calcium salts from the food—was in his opinion unsound when regarded from a therapeutic point of view and hardly possible to carry out in practice.

Dr. SCHOTT (Nauheim) insisted on the coincidence of arterio-sclerosis and insufficiency of the aortic valves. Tobacco, wine, and strong beer were, he said, the principal causes of the disease. He was opposed to the dietetic prescriptions of Dr. Rumpf because they often produced neurasthenia. Temperate habits and a mixed diet of good quality were the best therapeutic agents. Carbonic acid baths if rightly administered were never injurious. A 1 per cent. solution of nitro-glycerine was sometimes beneficial.

Professor VON JAKSCH (Prague) expressed the opinion that neurasthenia was not so often a cause of the disease as was believed by Professor Romberg. Neurasthenia was, on the other hand, the first symptom of arterio-sclerosis. Spirit-drinking must be avoided entirely but tobacco-smoking in moderation might be allowed. Iodine might be prescribed but digitalis would better be avoided.

Professor FRAENKEL (Berlin) discussed the influence of infectious diseases and especially of their toxins on the genesis of arterio-sclerosis. The thrombosis which occurred in the course of infectious diseases might be a symptom of toxic alterations of the walls of the blood-vessels. He had never observed arterio-sclerosis in children. Referring to the "dysbasia angio-sclerotica," described by Professor Erb, he directed attention to the so-called "dysphagia angio-sclerotica" which was characterised by meteorism, severe pains in the abdomen, giddiness, and fœtid stools. In asthma a combination of digitalis and morphine was recommended.

Professor SATTLER (Leipsic) spoke of the localisation of arterio-sclerosis in the retinal arteries. In grave cases hæmorrhages and emboli of the central artery were frequently present.

Dr. ERB, jun. (Heidelberg), said that Dr. Nissel and himself had made experiments on the artificial production of arterio-sclerosis by injections of adrenalin. He found, as had been stated by French authors, that after a few injections white spots in the walls of the vessels, small aneurysms, and real atheromatous ulcers were produced. On microscopical examination hyperplasia of the endothelium, formation of cartilaginous tissue, and rupture of the elastic fibres were found.

Dr. BAHRDT (Leipsic) reported that in a Leipsic life insurance company during the past 11 years the mortality from arterio-sclerosis and its sequelæ (apoplexy, gangrene, &c.) was 22 per cent. of the insured in general, the mortality from tuberculosis being only 7 per cent.; the latter disease was steadily decreasing whilst arterio-sclerosis had a tendency to increase.

Dr. HOPPE SEYLER (Kiel) read a paper on the pathological conditions of the pancreas in arterio sclerosis. He said that the acini of the gland became atrophied by hyperplasia of the connective tissue.

Dr. GRODEL (Nauheim) read a paper on the value of determinations of the blood pressure in the treatment of arterio-sclerosis. In 500 cases of well marked arterio-sclerosis he found that in 35 per cent. there was no increase of the blood pressure and that in 18 per cent. the pressure was very slightly increased. In the cardiac insufficiency of persons suffering from arterio-sclerosis when the blood pressure was normal digitalis and carbonic acid baths might be administered just as to other patients suffering from cardiac diseases. When the blood pressure was increased small doses of digitalis might be given for a somewhat long period. The carbonic acid baths, though not of the same advantage as in cases of normal blood pressure, were nevertheless useful; they must, however, be of short duration. It was only in cases where the cardiac insufficiency was very great and a tendency to apoplexy and embolism was present that they were absolutely contra-indicated.

(To be continued.)

CHOLERA IN MESOPOTAMIA AND PERSIA.

(FROM THE BRITISH DELEGATE TO THE OTTOMAN BOARD OF HEALTH.)

IT is a matter for sincere congratulation that there has been so far no revival in the present year of the outbreak of cholera which was the cause last year of so many deaths in the Syrian and Aleppo vilayets of the Turkish empire. Rumours have been current from time to time of the re-appearance, or of the continued existence, of the disease in Aleppo and elsewhere but they have never been substantiated. In Mesopotamia, on the other hand, and in the adjoining portions of Persia there can be no doubt that an epidemic of considerable, though by no means alarming, proportions is in progress.

Since the date of my last letter[1] there has been no diminution of the disease in Basra, while it has made its appearance in several places on the Tigris and Euphrates and has slightly extended its area of prevalence in Persia. In Bagdad there has been no known case of cholera since April 6th and it is believed that the outbreak is truly at an end there. The river quarantine at Garara and the land quarantines imposed by the local authorities at Khan-beni-Said, at Mahmudie, and at Feloudja have been suppressed.

The following statistics for Basra are in continuation of the table in my last letter:—

From April 11th	to	April 14th	...	13	cases	...	...	17	deaths.
,,	,,	15th	,,	,,	23rd	...	34	,,	...	...	31	,,
,,	,,	24th	,,	,,	28th	...	18	,,	...	...	17	,,
,,	,,	27th	,,	May	5th	...	37	,,	...	...	35	,,
On May 6th			...	...	...	...	...	7	,,	...	...	4	,,
,,	,,	7th	...	...	...	...	...	3	,,	...	...	2	,,
,,	,,	8th	...	...	...	...	...	9	,,	...	...	9	,,
,,	,,	9th	...	...	...	...	...	11	,,	...	...	4	,,
,,	,,	10th	...	...	...	...	...	8	,,	...	...	2	,,

The total number of known deaths in one month was consequently 121. The difficulty met with by the local authorities in obtaining knowledge of all the cases which occur is shown by the fact that of this total of 121 deaths no less than 69 only became known to them after death had occurred.

Cholera appeared at Samawa, on the Euphrates (south of Kerbela), on or about April 17th. Between that date and the 23rd 11 cases and eight deaths were reported to have occurred there. No fresh news was received thence until the 29th, when 1 case and 5 deaths were reported; on the 30th there were 4 cases and no deaths; on May 1st 4 cases and 1 death; from May 2nd to 4th one case and three deaths; and from the 5th to the 8th seven cases and ten deaths. The outbreak is apparently increasing rather than decreasing at Samawa. On April 29th the disease appeared at Nasrieh, a place on the Euphrates about half way between Samawa and the junction of the river with the Tigris. Up to May 7th there had been 17 cases and ten deaths there. On May 10th an imported case occurred at Gourna (? Korna, at the junction of the two rivers) in the person of a marine who had come from Basra and died after 14 hours' illness.

Cholera has also been reported from Djivarir, Hamar, and Remineh, places which are not marked on the maps at my

[1] THE LANCET, April 23rd, p. 1153.

disposal but which are certainly in the neighbourhood of the places already mentioned. At Djivarir (also called Ivdjivar) 14 cases and eight deaths occurred between April 28th and May 1st. At Hamar four cases and five deaths were reported between April 30th and May 1st; and at Remineh 11 cases and three deaths on May 2nd and 3rd.

Unfortunately little is known of the course of the disease on the Persian side of the Turco-Persian frontier. All that is known so far is that it appeared at Kermanshah in the first week of April, that six cases and four deaths had occurred there before the 9th of that month, that one more death was recorded in the week ending on April 19th, and that on the 20th five cases and four deaths were reported. No later news has been received from the sanitary officer there, but on May 2nd the Turkish Consul telegraphed that no further cases had been observed at Kermanshah, but that at Kenadir 19 cases and nine deaths had occurred. The last named place is difficult to identify. Possibly it is the same as Kengover where it was reported on April 26th that up to that date 28 cases and 16 deaths had occurred in the preceding 18 days. At another obscure place called Heyaver in the telegrams five cases with five deaths were said to have occurred on April 20th. It is obvious from these irregular and scanty sources of information that cholera is slowly extending its area of prevalence in Persia, though, as already stated, it has not as yet assumed the proportions of an alarming epidemic.

Constantinople, May 14th.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

Medical Officers and Native Chiefs: Government Order.—The Plague Epidemic.—A New Disinfectant for Plague.—The Accident to the Amir of Afghanistan.

THE following notification is published by the Home Department: "The Governor General in Council is pleased to direct that the following shall be substituted for paragraphs 3 and 4 of the Home Department Notification No. 437, dated July 25th, 1893, amended by the Home Department Notifications of 1900 and 1901, regarding the remuneration of medical officers for attendance on native chiefs and nobles and native gentlemen of high position in a Native State. The native chief or gentleman may offer any medical officer of the Government attending him such fee as he thinks fit to make and it will be reported by the medical officer to the political agent or other officer of the Government exercising political functions in the State of which the said chief, noble, or gentleman is a resident for the consideration of the local government within whose jurisdiction the native state is situated. This report will state the period during which he was in attendance and the number of visits paid. The medical officer will at the same time submit to the administrative medical officer or inspector general of hospitals to whom he is subordinate a full medical statement of the case showing the nature and extent of the relief afforded, the importance of the case from a professional point of view, and the circumstances in which he attended the patient. The local government is required to satisfy itself that the fee proposed is not out of proportion to the relief afforded and to the circumstances of the case and has authority to sanction the acceptance of a fee not exceeding Rs.2000. In considering these questions it will if necessary refer to the administrative medical officer or inspector-general of civil hospitals as the case may be. If the proposed fee exceeds this sum the matter will be submitted with a full report by the local government for consideration and orders of the Government. The reports prescribed in the preceding paragraph will not be required from a medical officer when the fee does not exceed Rs.50 a visit or Rs.1000 in the aggregate for repeated visits in the course of a year." It is difficult to see what reasons have determined the Government to exercise this interference with the private practice of civil surgeons. The new order reflects severely upon medical officers of the Government, and no reasons are given for it. It will lower the estimation in which the Indian Medical Service has hitherto been held by the natives of India. The following quotation from an important native paper in Calcutta gives some idea of the views of the natives on this new order. "The recent regulations regarding fees charged by medical officers for attendance upon native chiefs possibly contain more than meets the eye. It is difficult to conceive of the necessity for promulgating such restrictions unless on the assumption that some residency surgeons had taken advantage of their position to charge exorbitant fees for attendance or to take to intriguing under cover of professional visits. In some native States the residency surgeon exercises an influence which is not wholly traceable to his professional skill and we therefore welcome the new regulations which are designed to impose a limit upon the self-seeking of those sons of Æsculapius who are either too extortionate or too intriguing." The base insinuations conveyed in these paragraphs can be ignored but they express an animus against British officials which has been shown far too commonly of late. The profession will undoubtedly regard this new order as the essence of grandmotherly fussiness and when the absurdly small limits for fees are considered there seems to be ample justification for this opinion.

The plague returns for the week ending April 23rd show a satisfactory fall of about 8000 in the plague mortality throughout India. The figures are still very high, the total deaths for last week being 33,748. The principal returns are: Punjab, 24,714 deaths, as against 26,961 for the previous seven days; United Provinces 4279, as against 6197; Bombay Districts 3723, as against 5128; Bengal 1439, as against 1942; Rajputana 1072, as against 1055; Central Provinces 498, as against 704; Central India 732, as against 1288; Bombay city 563, as against 706; Calcutta 440, as against 500; and Karachi 249, as against 294. Kashmir reports 578 deaths. Later reports show that the disease is rapidly declining in Calcutta and Bombay city.

A new form of disinfectant has lately been advocated for plague in a liquid hydrocarbon obtained as a by-product in the manufacture of gas. It can only be used on buildings not easily set on fire. It is a yellow oily-looking fluid, highly combustible, and volatile. In using it all apertures are first closed, then the fluid is sprinkled on the floor and ignited. It blazes up furiously and gives off a thick black smoke. Its virtue is said to be in its destructive power against vermin and obnoxious insects. Rats quit the building and if they cannot escape they die asphyxiated. The great danger attending its use will obviously prohibit its general employment.

For the recent accident to the Amir of Afghanistan the services of the Government surgeon were asked for and Major R. Bird, I.M.S., has proceeded to Cabul. It appears that the Amir had one finger of the left hand severely lacerated by the bursting of his gun. This was the main reason for his asking for surgical assistance from India as the other injuries to his hand were comparatively slight.

May 5th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Hospital Saturday Fund.

THE twenty-fourth annual collection in warehouses, workshops, and other industrial establishments on behalf of the medical charities of the city took place on May 14th. The boxes have not all been sent in yet to the treasurer of the fund, but the amounts received to date (£4416) represent an increase of £300 on the receipts of the same week in last year. Through the agency of the Hospital Saturday Fund the local charities have benefited to the extent of £123,750 during the last 23 years. This sum falls far short of supplying the growing demands of the hospitals and the hope of the committee lies in enlisting widespread sympathy and active co-operation, particularly in organising in each place of employment a regular system of weekly contributions of pence and halfpence. This system has been attended with the most satisfactory results where it has been adopted.

A New Honorary Appointment at the Royal Infirmary.

The committee of the Royal Infirmary has adopted a resolution recommending the appointment of an honorary assistant gynæcologist to the Thornton wards. The post has become a necessity owing to the growth of work in the out-patient department. The election will be made on the same lines as in the other honorary appointments and will be in the hands of the election committee.

The New Chair of Physical Chemistry at the University of Liverpool.

Mr. F. G. Donnan, Ph.D., M.A. Dub., has been appointed to the new chair of physical chemistry at the University of Liverpool.

Health of Liverpool.

During the week ended May 14th 241 deaths were registered, being equivalent to an annual mortality of 17·3 per 1000. There were 472 cases in the city hospitals, including three of small-pox, 315 of scarlet fever, 29 of typhoid fever, 16 of measles, and 49 of diphtheria. In the Brownlow Hill Workhouse Hospital there were 1391 patients.

May 24th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Sanitary Inspection in Rural Districts.

Mr. Wyndham Randall, the medical officer of health of the rural district of Penybont in Glamorganshire, has upon several occasions drawn attention to the need of more systematic sanitary inspection in his district. At the end of last year an inquiry was made for the Local Government Board by its assistant inspector, Mr. C. J. Huddart, as to the arrangements in force for inspection. As a result of this inquiry the Board advised that two districts should be formed, each to be in the charge of an inspector who should also act as surveyor. The area of the Penybont district is 41,723 acres and the population is over 17,000. The district council decided on May 7th to carry out the proposal of the Board, one member only, a clergyman, expressing the opinion that it was not desirable to appoint another inspector. Hitherto the Local Government Board has opposed the combination of the offices of nuisance inspector and surveyor even in country districts where the duties of the latter officer are often merely those of a road foreman, so that the course taken in connexion with the Penybont district may be a precedent to be followed in other districts.

Failure of Proceedings against a Butcher.

A carcass of meat alleged to be tuberculous was recently seized in Cardiff and proceedings were taken against a butcher for exposing the meat for sale. The stipendiary magistrate dismissed the case because he was not satisfied that there was anything more than technical "exposure for sale." It is now reported that the butcher is claiming damages against the corporation under Section 308 of the Public Health Act, 1875. In the event of arbitration following the result will be of interest if only because a different decision has been arrived at in each of the principal cases which have hitherto been the subject of similar proceedings—those at Birkenhead, Brighouse, and Rhondda.

Winsley Sanatorium.

A meeting of the West of England and South Wales branch of the Incorporated Society of Medical Officers of Health, under the presidency of Mr. J. Tubb-Thomas, medical officer of health of the county of Wiltshire, was held on May 19th at the Winsley Sanatorium near Bath. Dr. L. A. Weatherley described the buildings which contain accommodation for 60 patients. The site of the institution is 600 feet above sea level and commands a magnificent view over Salisbury plain with the Westbury white horse clearly visible 15 miles distant. The buildings are constructed of Bath stone quarried from the estate. Each patient is to have a separate bedroom, which is heated with hot-water pipes on the low-pressure system. The aim of the designers to avoid all angles and ledges has been very well carried out and the sloping of the window-sills and bevelling of the sides of the windows are distinct features in all the rooms. Where so much care has been exercised in connexion with details it is disappointing to find that no cross ventilation has been provided for the water-closets and lavatories; even in modern hotels this very necessary precaution is taken. The cost of the buildings is not by any means excessive; it works out at a little over 6*d.* per cubic foot.

Scarlet Fever Isolation in Cardiff.

At the same meeting Dr. Edward Walford contributed to the discussion which is now going on with regard to the desirability of isolating cases of scarlet fever. He gave the experience of Cardiff and contended that if the question was to be considered from a statistical standpoint it would be safer to rely upon the statistics of one town, comparing the results in that town at different periods according to the amount of hospital isolation carried out. As illustrating the fallacy of comparing one town with another he cited the experience of Swansea, which town has been held up as an instance where very little scarlet fever accompanied little or no isolation and he compared it with the Rhondda urban district where there was also no isolation but where there was an attack rate of 8·7 per 1000 in the five years 1897-1901 and of 16·3 per 1000 and 12·1 per 1000 in 1900 and 1901 respectively. The experience of Cardiff during three epidemics showed that in 1884, when there were no patients isolated, the attack rate was 28 per 1000; in 1892 there were isolated 13 per cent. of the cases and the attack rate fell to 13 per 1000; while in 1902, with 48 per cent. isolated, there was a still further fall in the attack rate to 8 per 1000. The same diminution in the death-rate from the disease occurred in the three periods specified—namely, 1·36 per 1000, 0·65 per 1000, and 0·21 per 1000 respectively. Dr. Walford deprecated the aggregation of acute and convalescent cases in the same ward and for the latter he advocated the provision of separate wards.

"Westrumite" in Swansea.

Swansea is the first place in South Wales where "westrumite" has been used for laying the dust upon roadways. The portion of the Mumbles road which was selected for treatment has been noticeably free from dust and when a motor-car passes along the road the portion untreated can be only too readily distinguished.

Small-pox.

There is one case of small-pox in the Barry Hospital and there are four cases in the Cardiff Hospital from two houses. The last patient to be attacked in Cardiff was infected from a house in which there were four unrecognised cases. The youngest patient from this house was an unvaccinated baby who died in the hospital.

Diphtheria in Bristol.

A systematic search for "carrier" cases is now a part of the routine work of the Bristol health department whenever a particular district of the city is threatened with diphtheria. But as the medical officer of health (Dr. D. S. Davies) has pointed out, the first effect of the house-to-house visitation is apparently to magnify the extent of the epidemic, for cases come to his knowledge which he would not otherwise hear of; the ultimate result, however, is a considerable shortening of the epidemic. An outbreak of the disease occurred in Fishponds early in May and 20 unsuspected cases which would probably have been "carriers" followed the investigations made by Mr. J. C. Heaven, the deputy medical officer of health. Some of the local practitioners and others advocate the closing of the schools attended by the children affected, but Dr. Davies's method is distinctly more scientific and he declares it to be more effectual.

Memorial to the late Mr. Joseph Harper of Barnstaple.

The Bishop of Crediton on May 16th dedicated a new choir vestry at St. Mary Magdalene's Church, Barnstaple, which has been erected by public subscriptions as a memorial to the late Mr. Joseph Harper, L.R.C.P. Lond., M.R.C.S. Eng., who for 16 years served as churchwarden.

May 23rd.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The University of Glasgow and the Thomson Bequest.

AN interesting ceremony took place in the anatomical department of the University of Glasgow during the afternoon of May 18th when a tablet in brass repoussé work was unveiled in commemoration of the grant made by the trustees of the J. B. Thomson bequest which had enabled the University Court to build and to equip the new anatomical department. Principal Story, in a few remarks, acknowledged the obligations of the University to the trustees of the Thomson Bequest Fund for the generous gift which had enabled the University to build and to equip in a satisfactory way an important department of the medical school.

Bellefield Sanatorium, Lanark.

It has now been definitely arranged that the new sanatorium erected in the Bellefield estate near Lanark by the

Glasgow and District branch of the National Association for the Prevention of Consumption and other Forms of Tuberculosis will be formally opened on June 7th. A special train will convey the guests to Cleghorn from which station they will drive to Bellefield. At the conclusion of the opening ceremony a reception will be held, after which the company will have an opportunity of inspecting the grounds and buildings of the sanatorium.

British Medical Association: Annual Dinner of the Glasgow Branch

The annual dinner of the Glasgow and West of Scotland branch of the British Medical Association was held on the evening of May 20th in St. Enoch's Station Hotel, under the presidency of Dr. J. C. McVail, the guest of the evening being Mr. Andrew Clark, F.R.C.S. Eng., chairman of the Council of the Association. In replying to the toast of "The British Medical Association," proposed by Dr. Ebenezer Duncan, Mr. Clark pointed out that when the Association was founded in 1832, under the name of "The Provincial Medical Association," there were only 50 members on the roll. Now the membership numbered 19,000. There were 37 branches in the United Kingdom and 26 in the colonies and he believed that before long they would have branches in the Orange River State and in the Transvaal. Dr. D. C. McVail, in replying to the toast "Other Scottish Branches," proposed by Professor McCall Anderson, referred to the prevalence of quackery and stated that last year the Government pocketed £330,000 for "quack" medicine stamps and that next year the sum would be greatly increased on account of many wholesale makers of medicines being compelled to put stamps on preparations hitherto unstamped. This was a serious question and indicative of the condition of the public mind who were nevertheless kept in ignorance of the progress of medicine and surgery. With the exceptions of the meetings of the British Medical Association medical bodies did not permit reports of their doings to be inserted in the daily press. How, therefore, could the public be educated and how were they to know the difference between true medicine and quackery? That was a question for the Association to consider.

Opening of Kingseat Asylum.

Kingseat Asylum, Aberdeen, having been duly licensed by the General Board of Lunacy for the accommodation of patients, was formally declared open on May 14th. Mr. George Murray, chairman of the Aberdeen City District Lunacy Board, performed the ceremony at the close of an inspection of the buildings by the asylum committee of the board. Mr. Murray, in declaring the institution open, said that the cost of the new asylum had frequently been commented upon but it had to be borne in mind that whether the Royal Asylum directors, or the Lunacy Board, or the parish council had to provide accommodation for lunatics the cost had to be met and money had to be expended. The Lunacy Board had decided wisely in advising the construction of an asylum on the newest principles and on the most approved methods, the number of patients being limited to 500 or 700. From Mr. Spence, the secretary of the General Board of Lunacy for Scotland, the following congratulatory letter had been received:—

> I am directed by the board to inform you that on the 11th inst. they made a thorough inspection of the asylum at Kingseat and found that the buildings were completed, that they were of substantial and economical construction and were admirably adapted to their purpose, that they were provided with suitable and comfortable furniture, that the arrangements for heating, lighting, and generally for carrying on the work of the asylum were efficient, that the arrangements for a water-supply, for the extinction of fire, and for the disposal of sewage were satisfactory, and that the asylum was provided with a suitable and adequate staff. The board accordingly resolved at a meeting subsequently held to approve of and adopt the asylum as a district asylum for the Aberdeen city lunacy district.

On May 16th 50 male and 50 female patients were despatched to Kingseat from Aberdeen Royal Lunatic Asylum, 32 male and 34 female patients from the West Poorhouse, and 45 male and 50 female patients from the East Poorhouse.

The late Mr. William Heatlie Ferrier.

Mr. William H. Ferrier of Kyle, Ross-shire, whose death from a very acute illness is announced, commenced medical study somewhat later in life than is customary, having previously been for ten years engaged in the scholastic profession. It is stated that he was at one time offered, but did not accept, an appointment as private secretary to a nobleman well known as a colonial governor. Mr. Ferrier's medical education was partly received in Glasgow, and in 1895 he became qualified as L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg. He has left a widow and one child.

May 24th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Sir Charles Ball, M.D. Dub., F.R.C.S. Irel.

THE King has been pleased to appoint Sir Charles Bent Ball, Regius professor of surgery, University of Dublin, to be one of His Majesty's honorary surgeons in Ireland in the room of Sir Philip Crampton Smyly, deceased.

The Poor-law Dispensary System in Ireland

The annual general meeting of the Leinster branch of the British Medical Association was held in the Royal College of Physicians of Ireland, Kildare-street, Dublin, on May 19th, when the outgoing president, Dr. J. Magee Finny, delivered an address dealing with the Poor-law dispensary system. He referred to the short-sighted political economy which induced the conclusion of the Local Government Board that the greater the reduction in the population the fewer should be the number of the medical officers. As to the necessity for some form of promotion within the service, he said that two forms appeared to be feasible and desirable, first the natural movement from less lucrative districts to those with richer populations or easier work, and, secondly, a movement from executive to administrative positions. But he entirely disagreed with the idea of making the Poor-law medical service practically a Government department as had been suggested. He was of opinion that the highest administrative posts in the service should be open to the Poor-law officers of Ireland and to a larger extent than at present, and that the system of inspectors of the Local Government Board as now existing is not the best for the service or for the country.

Irish Medical Association.

The annual meeting of the Belfast and District branch of the Irish Medical Association was held in the Medical Institute, Belfast, on May 20th. After the transaction of the ordinary business the following were elected office-bearers for the year 1904-5:—President: Professor J. W. Byers. Vice-Presidents: Mr. S. B. Coates and Mr. H. C. Manley. Secretary and treasurer: Dr. A. G. Robb. Council: Mr. H. D. Osborne, Mr. R. Hall, Dr. J. St. C. Boyd, Dr. J. C. Ferguson, Dr. R. J. Munn, Dr. W. R. Davison, Dr. A. Mussen, Dr. D. P. Gaussen, and Mr. J. G. Jefferson.

Monaghan and Cavan Asylum.

At a meeting of the Monaghan and Cavan Asylum board on May 19th the resident medical superintendent (Mr. E. Taylor) submitted the thirty-fifth annual report. 1001 patients had been under treatment during the year 1903. 82 had been discharged, 61 died (7·1 per cent. of the average number in residence), and there was a high percentage of 34 caused by pulmonary tuberculosis. At the close of the year there were ten patients less than at the beginning. The expenditure had been £22,213 16*s.* (£19,203 12*s.* 10*d.* for maintenance and £3010 3*s.* 2*d.* in repayment of loans). The net cost per head for maintenance had been £21, which was £1 7*s.* 11*d.* less than for the previous year.

May 24th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Nascent State and the Properties of Drugs.

AT the meeting of the Academy of Medicine held on May 9th M. Albert Robin read a most interesting paper. He stated that the therapeutical action of certain synthetic remedies and the special properties of chemical bodies when set free by contact with the tissues are greatly exalted, as indeed are those of all bodies in the nascent state. Solution of hydrogen peroxide is a typical example and has a marked action by means of the oxygen which it gives off. Willstätter has stated that solution of hydrogen peroxide acts like water of crystallisation and forms combinations which will break up into oxygen on the one hand and the crystalline body on the other. Thus it is possible to combine with acetate of sodium 22 parts

per 100 of its weight of oxygen, and even alum will combine with solution of hydrogen peroxide. The peroxides are specially interesting as regards the subject of the paper; for instance, the peroxides of calcium or of magnesium set their oxygen free on coming into contact with the gastric juice, or if administered in a keratin capsule the decomposition will be delayed until the intestine is reached. The antiseptic action on the intestinal contents is very marked, especially upon fermentation, and in this way the drug is useful in certain forms of diarrhœa. Unna has employed sodium peroxide in affections of the skin in the form of an ointment of from 3 to 5 per cent. strength. Peroxide of zinc acts in the same way, the action of the nascent oxygen and the nascent zinc being mutually increased. Of other combinations hypnol or mono-chloral antipyrin containing 45 per cent. of chloral and 55 per cent. of antipyrin acts well in doses of one gramme. Aspirin or aceto acetyl salicylic acid has an analgesic effect much more powerful than either of its two constituents. Quinofortine or quinate of urotropine and sudoral or quinate of piperazine act, on the one hand, by giving up benzoic acid which is changed into hippurate and, on the other, urate of piperazine which is formed in the body and is extremely soluble. These drugs when given so as to be absorbed in the nascent state act very well and it is quite unnecessary to give big doses as is the custom in Germany; small quantities are quite sufficient. Iodide of sulphur has an analogous action. M. Prunier has shown that sulphur and iodide will combine according to the formula $S_{11}I$ and that this drug when administered sets free its iodine by contact with the gastric juice so slowly that no toxic effects are produced. It may be given so as to act in the intestines by being administered in keratin capsules. Very small doses, such as from 10 to 30 centigrammes, will lessen gastric fermentation and fœtor of the breath. The acids due to fermentation are markedly reduced Iodide of sulphur acts well in gaseous fermentation but not in cases of butyric fermentation, while in surgery it is useful in the treatment of ulcers of the leg. The double iodide of bismuth and cinchonidine, known under the name of "erythrol," if applied to a wound decomposes into iodine and cinchonidine. It is an admirable disinfectant of putrid wounds, especially such as are cancerous, or in cases of wounds of the mouth. Again, by combining alkaloids such as morphine or cinchonidine with various substances different medicaments may be obtained suitable for varying conditions which will act excellently well owing to the nascent state in which their constituents are given off when they are decomposed.

Occupation Neuritis in a Coachman.

At the meeting of the Neurological Society held on May 5th M. Raymond and M. Courtellemont showed a patient suffering from Polyneuritis of both Hands and Synovitis of the Wrist-joints. There were present among other signs reaction of degeneration, peripheral hypo-æsthesia, and spots along the course of the nerves which were painful on pressure. The patient was compelled owing to his occupation as coachman to keep the reins tightly stretched for many hours a day and the paralysis was due to fatigue. The injury was caused in two ways—one by pressure on the nerves from the muscles of the hand and forearm and two by compression of the nerve twigs by the synovitis. M. Raymond and M. Courtellemont concluded their demonstration by pointing out that the signs in this case enabled a diagnosis to be made between a true acroparæsthesia and the symptomatic or false acroparæsthesia which is so often present in cases of peripheral neuritis.

Medical Cases in the Law Courts.

Three cases of medical interest have recently been decided by the courts. The first case which came before the Third Chamber of the Civil Tribunal was shortly as follows. The Baroness de H. engaged Dr. N. as body physician in June, 1902 An agreement was signed for one year, Dr. N. receiving 750 francs per mensem, exclusive of board, lodging, and incidental expenses. After seven months had expired the baroness suddenly dismissed Dr. N. in Paris, through which town she happened to be passing. Dr. N., therefore, promptly summoned the baroness before the court for breach of contract and for summary dismissal, claiming damages to the amount of 5130 francs. The court reduced the damages to 1748 francs, holding that the baroness had a right to dismiss Dr. N. even according to the contract but that the summary manner in which she had chosen to dismiss him was prejudicial to his career as a medical man. The second case which came before the Tenth Chamber was concerned with a medical man who was helped in his consultations by a somnambulist. The point was whether both he and the somnambulist were guilty of the illegal practice of medicine. The Syndicate of Medical Men of the Seine decided that both were guilty and prosecuted Dr. L. and the somnambulist. The court, however, took a different view. Dr. L., they argued, was properly qualified and as he alone was consulted he had committed no offence. But Madame E., the somnambulist, had no right to prescribe and had thus committed an offence. The question then came up, as the two had acted together, were they both innocent or both guilty? When a patient came to see Dr. L. he put the somnambulist to sleep and she dictated a prescription which Dr. L. read over and signed. The patient then took the prescription to the dispensing druggist in the usual way. The accused were fined 200 francs respectively and the court in addition allowed the Syndicate of Medical Men of the Seine 200 francs costs. In the third case a medical man sued a patient for the amount of his bill. The patient replied that on account of the bill having run for two years the debt was statute barred. The court, however, decided that each visit constituted a separate debt and that although some of the visits were statute barred yet some were not. The patient, therefore, was ordered to pay what he owed for such of the visits as were within the period of two years.

May 22nd.

THE GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

THE seventy-ninth session of the General Medical Council was opened on Wednesday, May 25th.

The regular day for the summer meeting of the Council is the fourth Tuesday in May but owing to the fact that this year that day directly followed Whitsun Monday the opening of the meeting was postponed until the Wednesday.

The changes in the *personnel* of the Council are due to the retirement of Mr. Bryant and to the appearance for the first time of a representative of the University of Liverpool. Mr. Bryant is succeeded by Mr. Henry Morris as the representative of the Royal College of Surgeons of England, and Dr. Richard Caton of Liverpool is the representative of the University of that city.

Mr. Bryant's period of office as representative of the Royal College of Surgeons of England upon the Council expired last March and he decided not to seek re-election. For many years Mr. Bryant has been one of the most persistent workers on the Council. He has been joint-treasurer, chairman of the Examination Committee, and member of the Executive Committee, and in the discharge of the duties involved he has displayed administrative energy and an unfailing genial courtesy. The medical profession will be glad to learn that Mr. Bryant's connexion with the Council has not quite ceased as he has consented to act as inspector of examinations for the Council during the present year. On personal and on professional grounds, as well as because of his close familiarity with the subject, Mr. Bryant, who will be accompanied by a Fellow of the Royal College of Physicians of London as a visitor, will fill the post admirably and we confess that we are a little astonished to find Sir Victor Horsley objecting to his appointment as he is understood to have done.

WEDNESDAY, MAY 25TH.

The seventy-ninth session of the General Council of Medical Education and Registration opened in the Council

Chambers, 299, Oxford-street, London, W., to-day, Sir WILLIAM TURNER the President, being in the chair.

An Absent Member.

While the roll was being called the PRESIDENT said he was sorry to intimate that he had had a letter from Mr. Tomes who was so ill that he was not able to attend the meeting of the Council. He thought that they should express their regret.

This was agreed to.

New Members.

Official notification was made of the appointment of Mr. Henry Morris and Dr. Richard Caton as members of the Council, the former by the Royal College of Surgeons of England, in place of Mr. Bryant, retired, and the latter by the council of the University of Liverpool. Mr. Morris was introduced by Dr. Norman Moore and Dr. Caton by Mr. Young.

The President's Address.

[The PRESIDENT commenced his address by welcoming Mr. Morris and Dr. Caton to the Council and by expressing his warm appreciation of the work done by the retiring member, Mr. Bryant, as one of the treasurers, as chairman of the Examination Committee, and as a member of the Executive Committee. He also announced that Mr. Bryant had most kindly consented to undertake the duties during the present year as inspector of examinations in the place of the late Sir George Duffey. He continued:]

At the meeting of the Council on Nov. 27th a committee was appointed to consider the report of the Examination Committee on the questions raised in the reports of the inspector and visitor of the preliminary scientific examinations of the three Conjoint Boards and the Apothecaries' Society of London. Before the termination of that session the committee adjusted the terms of a letter which I addressed to all the licensing bodies in the United Kingdom and to the scientific teaching institutions recognised by them and approved by the Council. During the winter replies were received from the great majority of the bodies and institutions. These replies were summarised in the office by the Registrar, assisted by two of the clerks, and a proof in type was submitted to me early in April. It was obvious, if a report were to be drawn up by the committee, circulated amongst members of Council, and properly considered during the present session, that it would be necessary to call the committee together before the meeting of the Council and to frame a report in which should be embodied the recommendations to be submitted to the Council. This was accordingly done and the report has been for some days in your possession. As two or three additional replies have been received since the report was circulated I propose to hold a meeting of the committee this afternoon, when the Council rises, to make a final adjustment, but I do not think that any material change will be made in the character of our recommendations. All the licensing bodies have now sent in answers to questions. Having an intimate bearing on this report is the amended scheme of professional study for students of the first year and the subjects of and mode of conducting the first professional examination of the Conjoint Board in England which has been adopted by the Royal Colleges of Physicians and Surgeons in London and was intimated to the Council three weeks ago. I do not propose to anticipate the statement which the representatives of the two Colleges intend doubtless to make on the amended scheme further than to say that the report of the Council's visitors to the first professional examination of the Conjoint Board has obviously been carefully considered by the Colleges, and that the suggestions made therein have been in several particulars adopted.

Certain Bills have been introduced into Parliament which bear on the Medical Acts. General Laurie has this session introduced into the House of Commons a Bill to meet the difficulty occasioned by one of the provincial Legislatures in Canada declining to renounce its present power of independent legislation and to consent to the formation of a Register for the whole Dominion, as is provided for, subject to the consent of the local legislatures, in the Canada Medical Act, 1902. This Bill provides that His Majesty may, if he thinks fit, declare by Order in Council that where any part of a British possession is under a central and also a local legislature, as is the case in Canada and some other colonies, the part under the local legislature shall for the purposes of the Medical Act, 1886, be deemed a separate British possession. Should General Laurie's Bill become law Part II. of the Medical Act, 1886, could be applied to any province in Canada which, in the opinion of His Majesty, should afford to registered medical practitioners of the United Kingdom such privilege of practising in the province as to His Majesty might seem just. Bills have also been introduced during the present session of Parliament to facilitate the adoption of metric weights and measures in this country in substitution for our present methods. The interest which as a Council we have in such Bills is in connexion with the British Pharmacopœia and it is not unlikely that the Pharmacopœia Committee may refer to the subject in its report. Mr. Jackson has also given notice of a motion calling the attention of the Council to this matter.

[The PRESIDENT then referred to a statement privately circulated by him concerning the financial position of the Council, and also to certain offers to purchase the Oxford-street property of the Council which are to be considered *in camerâ*. He continued:]

Copies of a decision of the High Court of Justice in Ireland on a question submitted to the Court, whether the word "person" in Section 3 of the Dentists Act, 1878, means exclusively natural person or includes an artificial person, such as a corporation or company have, I understand, been sent to each member of the Council. The question arose in connexion with the case of O'Duffy *v.* Jaffe, when it was contended that the practice of dentistry could not be pursued by a company entitled Jaffe, Surgeon Dentists, Limited. The court decided that the Dentists Act as worded is directed against a natural person only and not against a company. The effect of this judgment is to show that a company practising dentistry cannot be prosecuted under the Dentists Act. Since the judgment in the case of O'Duffy *v.* Jaffe was given another case relating to the practice of dentistry by companies has been before the High Court of Justice in Ireland. The case arose on an application for the issue of a mandamus to compel in Ireland the Registrar of Joint Stock Companies to register under the Companies Act, 1862, the memorandum of a company to be styled "S. G. Rowell, Dentist, Limited." An elaborate judgment on the case was delivered by Chief Baron Palles who, with his colleagues, declined to grant the mandamus. The questions involved in these cases before the High Court of Justice in Ireland will be brought before the Council by Sir Charles Ball, who will move that the Council take action in terms of his motion. The Council will receive during the session reports from the Executive, Education, Finance, Public Health, Pharmacopœia, and other Committees. Thursday, May 26th, is set aside for the consideration of cases which have been under the consideration of the Penal Cases Committee, and it is satisfactory to note that in all probability they will not occupy more than one day of our sitting.

The President having been formally thanked for his address the Council proceeded with the business of the session.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—At the examinations held in May the following candidates passed in the subjects indicated:—

Surgery.—C. W. S. Boggs (Section I.), Leeds; E. Morris, St. Bartholomew's Hospital; M. B. Potts (Sections I. and II.), Leeds; F. P. Rose, London and St. Mary's Hospitals; J. P. B. Snell (Section I.), Middlesex Hospital; M. C. Vivian (Sections I. and II.), Royal Free Hospital; and P. B. Whitington (Sections I. and II.), London Hospital.

Medicine.—A. J. Ambrose (Sections I. and II.), Westminster Hospital; W. S. Gibson (Sections I. and II.), Manchester and Middlesex Hospital; F. W. Higgs (Sections I. and II.), St. George's Hospital; M. B. Potts (Sections I. and II.), Leeds; G. W. Rogers (Sections I. and II.), Cardiff and St. George's Hospital; and A. B. S. Todd (Section I.), Leeds.

Forensic Medicine.—A. J. Ambrose, Westminster Hospital; J. B. Barnes, Manchester; L. F. Cope, St. George's Hospital; A. Lazar, Vienna and St. Mary's Hospital; M. B. Potts, Leeds; G. W. Rogers, Cardiff and St. George's Hospital; H. P. Shanks, St. Bartholomew's Hospital; A. B. S. Todd, Leeds; and S. H. R. Welch, Charing Cross Hospital.

Midwifery.—T. R. Roberts, London Hospital; and L. Sells, St. Thomas's Hospital.

The diploma of the Society was granted to the following candidates entitling them to practise medicine, surgery, and midwifery: W. S. Gibson, F. W. Higgs, and F. P. Rose.

TRINITY COLLEGE, DUBLIN.—At the final examination in surgery held at Trinity term the following candidates were successful:—

James G. Wallis, Herbert St. M. Carter, Henry M. Crawford, Wright Mitchell, Arthur W. Goldsmith, Charles J. Coppinger, David Gray,

John W. Leech, James H. C. Thompson, Frederick W. Bury, John A. Sibthorpe, Wilfrid Thunder, Harold T. Marrable, Wilfred L. Myles, and George B. M'Caul.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—FELLOWSHIP EXAMINATION.—The following candidates having passed the necessary examination have been admitted Fellows of the College:—

L. E. Hardy, M.S. Edin.; J. P. L. Keegan, L.R.C.S. Irel.; R. H. Kennan, M.Ch. Dub.; J. C. Laverting, L.R.C.S. Irel.; J. M. S. Levis, L.R.C.S. Irel.; J. J. O'Hagan, L.R.C.S. Irel.; and H. Stevenson, B.Ch. R.U.I.

The following candidates passed the primary part of the examination.

E. H. F. Gilligan, H. M. Harrison, T. T. O'Farrell, G. Petit, and G. Sheppard.

REMARKABLE VITAL STATISTICS OF ST. PETERSBURG.—An examination of the hygienic statistics affecting the city of St. Petersburg discloses a most striking feature. Russia's capital from its rise down to the year 1884 appears as an "expiring community" and it is only since that happy year that the mortality became less than the births, which improvement has continued up to now. For the year 1903 the births of the St. Petersburg population amounted to 45,657 as against deaths 38,537. Since the filtering of the water-supply typhoid fever has attacked a much smaller number of people.

SEWAGE PURIFICATION WORKS AT DAVYHULME.—A report showing the progress made by the Manchester corporation at the works in connexion with sewage purification at Davyhulme was presented at the last monthly meeting of the Mersey and Irwell Joint Committee. The corporation desires to place second contact beds at Davyhulme and land which has been purchased at Flixton will be retained in order to carry out extensions if required. The corporation claims, moreover, that the volume of sewage per head of the population is much higher than in other towns, owing to water which has been used at works for cooling purposes getting into the sewers. Steps are now being taken to keep it out and so to lessen the volume of sewage. Manchester has had to bear much strong language and many fines for her delinquencies or shortcomings as regards the purification of her sewage, but she has done much with persistent perseverance towards removing this cause of reproach. This is agreeably shown by the change in the attitude of the joint committee towards the corporation, for it was unanimously decided to instruct the clerk to inform the corporation "that the joint committee are prepared to refrain from applying to the court for a period of six months if the corporation of Manchester will continue to make satisfactory progress in carrying out the scheme." It is also evidenced by the fact that the two bodies are now on visiting terms. The clerk of the joint committee said that he had received from Sir Bosdin Leach, chairman of the Manchester rivers committee, an invitation to the joint committee to inspect the works at Davyhulme, "which are by far the largest of the kind in the world," and it was arranged that the visit should be made early in June.

UNIVERSITY OF OXFORD.—The Reader in Pathology gives notice that an election to a Philip Walker studentship in pathology will take place in the end of June next. The studentship has been founded "for the furtherance of original research in pathology." It is of the annual value of £200 (payable quarterly in advance) and is tenable for three years. The student may be of either sex and need not necessarily be a member of the University of Oxford nor be legally qualified to practise the profession of medicine. While holding office the time of the student must be devoted to original pathological research; no business or profession may be systematically followed nor any educational or other work engaged in which in the opinion of the Reader in Pathology and of the board of managers would interfere with the pursuit of original inquiries. The place and the nature of the studies of the student are subject to the approval of the Reader in Pathology but the student is bound to pursue these studies within the University during at least three terms of his tenure of the studentship. This requirement may, however, in special cases be dispensed with. If the work done by any student be of exceptional promise the studentship may be extended for a second period not exceeding two years. Intending candidates are requested to send letters of application, along with three testimonials (one of which should vouch for the candidate's personal character and general education), so that these shall be delivered to "The Reader in Pathology, University Museum, Oxford," on or before June 20th; ten copies of these papers must be submitted. Testimonials should be framed with a view to setting forth the candidate's capacity for undertaking research work. In the letter of application the candidate should state age, training, and particulars of any posts already held. Published records of work done may be submitted, but the previous prosecution of original research by a candidate is not essential to success. The full text of the regulations relating to the studentship will be found in the *Oxford University Gazette* of Feb. 2nd, 1904, and copies of these regulations can be had on application to the Reader in Pathology.

ASSOCIATION FOR PROMOTING THE TRAINING AND SUPPLY OF MIDWIVES.—A meeting of the council of this association was held by kind permission of Mrs. Charles Schwann at 4, Princes-gardens, London, S.W., on May 17th. The chair was taken by Miss Wilson, president of the Midwives Institute and member of the Central Midwives Board. Several well-known ladies and gentlemen were present. Mrs. Wallace Bruce, the chairman of the executive committee, stated in her report that Mr. Arthur A. Leon, L.C.C., had consented to become treasurer of the association and that Mr. Cosmo Bonsor (treasurer of Guy's Hospital), Mr. Bailies Hughes, K.C., and Dr. R. N. Salaman of the London Hospital had joined the finance committee. She reported that a definite scheme of training had been drawn up to secure midwives for nursing among the poor. Free or assisted training was given by the association to candidates willing to bind themselves to district midwifery for a definite period. Training vacancies had been engaged by the committee at Queen Charlotte's Hospital, the Lying-in Hospital, York road, the East End Mothers' Home, the Glasgow Maternity Hospital, and the Cheltenham District Nursing Home. Reference was made to the Training Home at East Ham in connexion with the Plaistow Maternity Charity started by the association last year. Since the opening of the home in November, 1903, 189 infants had been under the care of the midwife in charge and the pupils under training and more than 4000 visits had been paid. An immense amount of good had been done to many mothers and infants and it had proved an excellent training ground for the pupils. The cost of 16 weeks' training, with board and lodging, is £19 6*s.* 8*d.* It was stated that the question of finance was one of great anxiety to the executive committee. The sum of £1000 would train 50 midwives and it was felt that a direct appeal must be made for this amount to form the nucleus of a training fund. The committee had been greatly encouraged by some generous donations; two of £20 each had been sent for special training. A discussion took place on various methods of getting into touch with local authorities and others interested in the question and it was resolved, on the motion of Lady Balfour of Burleigh, "that a large public meeting be held in the autumn." This was seconded by Dr. Salaman, who considered that healthy infants were the mainstay of the nation and as needful as an efficient army. The annual meeting of subscribers and friends of the association will take place early in 1905. The office of the association is at 12, Buckingham-street, Strand, W.C.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Manufacture of Serum.

WHEN the House of Commons reassembles after the Whitsuntide recess Mr. ROBERT CAMERON will ask the Home Secretary whether his attention has been called to the report of the Lister Institute of Preventive Medicine, in which it is admitted that the injection of antitoxin causes a large number of rashes, inflammation of joints ascribed to something inherent in the serum of the horses or other animals, and also an increased number of cases of paralysis; and whether, in view of this statement, he will consider the advisability of taking steps to prohibit the manufacture of serum in laboratories licensed under the Vivisection Acts.

Medical Examination of School Children.

Sir HUGH SHAW STEWART proposes to move the insertion of a new clause in the Education (Scotland) Bill when that measure gets into committee, giving power for the public health inspection and supervision of schools and the medical examination and supervision

of school children. The proposed clause reads as follows: "It shall be the duty of each local authority acting within a school board area to cause a systematic supervision to be exercised over the health conditions of the schools within their district which are under the jurisdiction of the school board, and it shall be the duty of the medical officer of the local authority, in addition to any special reports which may be required, to report in the month of January in each year to the local authority as to the health conditions of the schools within their district, and particularly as to (a) the lighting; (b) the heating and ventilation; (c) the condition as to cleanliness; (d) the sanitary conveniences; and (e) any action which he has taken in the course of the preceding 12 months with respect to infectious disease in connexion with schools. The local authority shall forthwith transmit to the school board and to the Education Department a copy of this report. It shall be the duty of the local authority to carry out a system of medical examination and supervision of the children on the registers of the schools within their district upon such lines and in such a manner as the Education Department may prescribe, and to supervise the health conditions of the schools, and it shall be the duty of the local authority to appoint such medical inspectors as may be necessary for the proper medical examination, inspection, and supervision of the children and schools, and such examination, inspection, and supervision shall be carried out under the supervision of the medical officer of health. The local authority shall forthwith transmit the reports of the medical inspectors to the school board. In consideration of the inspection and supervision of the health conditions of schools and of the medical examination and supervision of school children thus devolving upon the local authority, the Education Department shall each year pay to the local authority out of the education fund such sum as shall adequately meet the cost involved, upon a scale to be fixed by the Secretary for Scotland, having regard to the particularity of the medical examination required and the amount of work involved, on the basis of a payment per pupil upon the registers of the schools within the district of the local authority, always provided that the Education Department may withhold such payment if the department is of opinion that the inspection and supervision of the schools and school children within the district of any local authority has been inefficient. It shall be the duty of the school board to report forthwith to the local authority all cases in which the reason assigned for the absence from school of a child is the existence of infectious disease in the household."

The New Lunacy Bill.

As stated in THE LANCET of May 21st the Attorney-General was prevented from explaining the provisions of the Lunacy Bill which he introduced on Wednesday, May 18th, owing to the operation of one of the new rules of procedure. On Thursday Dr. FARQUHARSON drew the attention of the House to the inconvenience thereby caused. He remarked that he had never known legislation to follow so quickly on a debate in the House, but the Attorney-General could not "condescend to particulars," as they said in Scotland. The Bill provided a great improvement in the treatment of lunacy, its object being to assimilate the English law to the Scottish, to enable patients to be treated in a better way and to give them a chance to return to sanity. The Attorney-General—who, Dr. Farquharson reminded the House, is a graduate in medicine of Edinburgh as well as a lawyer—afterwards told the honourable Member that he regretted he had not had an opportunity of describing the Bill, which "would create almost a beneficent revolution."

HOUSE OF COMMONS

WEDNESDAY, MAY 18TH.

Alleged Violation of the Lunacy Act.

Mr. COBBIE GRANT asked the Home Secretary whether he was aware that Mrs. Helen Meredith was detained in Bethlehem Royal Hospital from August 17th to Sept. 25th, 1903, without being taken before or visited by a judicial authority as prescribed by Section 8 of the Lunacy Act 1890, although she signed immediately on her admission on August 17th, 1903, a notice of her desire to be taken before or visited by a justice, judge, or magistrate having jurisdiction in the district within which she was detained; and, if so, whether he would say who was responsible for this violation of the Lunacy Act and what steps he would take to prevent a repetition of it.—Mr. AKERS-DOUGLAS replied: I understand on inquiry that the facts are as stated in the question, but the delay was due to a cause for which the hospital authorities were not responsible. They forwarded the notice given by the lady in question without delay to the clerk to the justices and it was in his proceedings for procuring the attendance of a justice that the difficulty and delay occurred. I am making further inquiries with the view of ascertaining whether any steps can be taken to prevent the recurrence of such a case.

THURSDAY, MAY 19TH

The Case of Dr. Kirwan.

Mr. SLOAN asked the Chief Secretary to the Lord Lieutenant of Ireland whether his attention had been called to the fact that, at a meeting of the committee of management of the Ballinasloe District Asylum, held on May 9th, a letter was read from the Lord Lieutenant asking to be informed why, in electing Dr. J. St. L. Kirwan to the vacant office of resident medical superintendent, they had passed over the senior assistant medical officer of the asylum; whether information was refused to the Lord Lieutenant; and if so, what action, if any, he intended to take in the matter.—Mr. WYNDHAM replied: The effect of the Lord Lieutenant's letter is correctly stated in the first part of the question. The request for information was not refused. The committee of management questioned the right of the Lord Lieutenant to invite it to give reasons and stated that Dr. Kirwan, the junior assistant, had "been duly" appointed by it. Section 24 (4) of the Local Government (Ireland) Act, 1898, provides that the resident medical superintendent shall not be appointed without the concurrence of the Lord Lieutenant. The statement that Dr. Kirwan was duly appointed by the committee is, therefore, inaccurate inasmuch as it is incomplete. The right vested in the Lord Lieutenant of granting or withholding his concurrence is unconditional. In exercising that right his Excellency discharges a duty imposed upon him by statute and that duty is not limited to ascertaining whether the candidate whose appointment is submitted is possessed of the statutory qualifications for the post. The circumstances of each case must be considered. The committee has declared that Dr. Kirwan was elected because, in its judgment, he was considered to be the fittest for the position. The selection of a junior officer, however well qualified, is of doubtful expediency, but in view of the fact that promotion by seniority is not laid down in the Act, and though of general is not of universal advantage, his Excellency does not feel called upon to express an opinion on the view put forward by the committee which is primarily responsible. In these circumstances his Excellency is not prepared to withhold his statutory concurrence in the appointment and the committee has been informed accordingly.

Advice as to Vaccination.

Mr. WEIR asked the President of the Local Government Board whether he was aware that, although forms were framed by the Local Government Board for distribution to the parents of newly born infants, the vaccination officer of Brighton had induced the superintendent registrar to issue a form in which the vaccination officer gave his private advice in regard to vaccination; and, if so, whether steps would be taken by the Local Government Board to insure its forms being issued intact.—Mr. LONG replied: I understand that the guardians of the parish of Brighton recently had this subject before them and resolved that the vaccination notice should be issued in the form previously in use in the parish with the omission of a notice printed on it to the effect of its being advisable that children should be vaccinated between the second and third months after birth. I am not aware of any sufficient reason for objecting to the document as altered and I do not propose to interfere in the matter.

Vivisection.

Mr. WEIR asked the Home Secretary whether he had yet received the report of the committee appointed by the Royal College of Physicians to ascertain whether, in its judgment, experiments on living animals before classes were necessary for the education of medical students; and, if so, whether he would state the nature of the opinion expressed.—Mr. AKERS-DOUGLAS replied: I presume the honourable Member refers to the special consideration which the Royal College of Physicians, at my request, gave to the question whether experiments on living animals (under anæsthetics) were necessary for the proper teaching of pharmacology. I have received the opinion of the College on this question and it is to the effect that science can only be adequately taught with the aid of demonstrations which involve, in the case of physiology and pharmacology, experiments on living animals.

Uncertified Deaths in Scotland.

In the general discussion that arose on the motion for the holiday adjournment Mr. WEIR called attention to the large number of uncertified deaths in Scotland.—Mr. GRAHAM MURRAY replied that it would be a useless expenditure of money to insist by law that every death should be certified by a medical man. There was ample protection against crime in the inquiries of the procurator-fiscal.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BRUNTON, Sir LAUDER, F.R.S., has been elected Consulting Physician to the Infants' Hospital, London, N.W.

CHASTEL DE BOINVILLE, VIVIAN, M.B., Ch.B. Edin., has been appointed Assistant Director of Cancer Research, Liverpool University.

CLARKE, J. JACKSON, M.B. Lond., F.R.C.S. Eng., has been appointed Surgeon to the North-West London Hospital.

MACKENZIE, JOHN ALEXANDER, M.A., M.B., Ch.B. Aberd., has been appointed Resident Medical Officer at the General Infirmary, Oldham.

SIBLEY, W. KNOWSLEY, M.D. Camb., M.R.C.P., has been appointed Physician to the North-West London Hospital.

SUTHERLAND, G. A., M.D. Edin., F.R.C.P. Lond., has been appointed Physician to the North-West London Hospital.

TEMPLETON, GEORGE, M.B. Edin., F.R.C.S. Eng., has been appointed Surgeon to the North-West London Hospital.

WARE, A. M., M.D. Cantab., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

WILSON, FRANCIS KENNETH, M.B., B.S. Lond., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed District Medical Officer and Public Vaccinator to the Walsham-le-Willows District of the Stow Union.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ARMY MEDICAL SERVICE, War Office.—Examination for not less than 30 Commissions in the Royal Army Medical Corps.

BIRMINGHAM WORKHOUSE INFIRMARY.—Assistant Resident Medical Officer. Salary £104 per annum, with apartments, rations, &c.

BOURNEMOUTH, ROYAL VICTORIA HOSPITAL.—Honorary Medical Officer for Electrical Department.

BRADFORD ROYAL INFIRMARY.—Dispensary Surgeon, unmarried. Salary £100 per annum, with board and residence.

BRIGHTON, HOVE, AND PRESTON DISPENSARY.—House Surgeon. Salary £160, with rooms, coals, gas, and attendance.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn-road, W.C.—House Surgeon. Salary at rate of £50 per annum, with board and residence.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—Pathologist. Salary 100 guineas per annum.

DERBYSHIRE ROYAL INFIRMARY.—Resident House Surgeon. Salary £100 per annum, with apartments and board.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY.—House Surgeon. Salary £50 per annum, with board and washing.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark.—Surgeon to Out-patients.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Physician, unmarried, for six months. Salary £20, washing allowance £2 10s., with board and residence.

HULL ROYAL INFIRMARY.—Fourth House Surgeon. Salary £50, with board and apartments.

INDIAN MEDICAL SERVICE, India Office.—13 Commissions in Indian Medical Service.

KENT AND CANTERBURY HOSPITAL.—House Physician, unmarried. Salary £80 a year, with board and lodging.

LEICESTER INFIRMARY.—Assistant House Surgeon. Salary £80 per annum, with board, apartments, and washing.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, E.—Two House Surgeons and one House Physician, all for six months. Salaries at rate of £60 per annum, with board, residence, and laundry.

PARISH OF ST. LEONARD, SHOREDITCH.—Senior Resident Assistant Medical Officer. Salary £150 per annum, with rations, apartments, and washing.

PERTH DISTRICT ASYLUM, Murthly.—Assistant Physician. Salary £120 per annum, with board, apartments, washing, &c.

RADCLIFFE INFIRMARY, Oxford.—Honorary Assistant Surgeon and Surgical Registrar.

ROCHDALE INFIRMARY.—Resident Medical Officer, unmarried. Salary £100 per annum, with board, residence, and washing.

ROTHERHAM HOSPITAL AND DISPENSARY.—Assistant House Surgeon. Salary £60 per annum.

ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—Senior Resident Medical Officer. Salary £100 per annum, with board, residence, and washing. Also Clinical Assistants (female).

ROYAL LONDON OPHTHALMIC HOSPITAL, City-road, E.C.—Third House Surgeon. Salary £50, with board and residence.

SEAMEN'S HOSPITAL SOCIETY BRANCH HOSPITAL, Royal Victoria and Albert Docks, E.—House Surgeon. Salary £50 per annum, with board, residence, and washing.

SETTLEMENT OF WOMEN WORKERS MEDICAL MISSION HOSPITAL, Canning Town, E.—Senior Resident Medical Officer (female). Salary £100 per annum. Also Assistant Doctor. Board and residence only.

SOUTHPORT INFIRMARY.—Resident Junior House and Visiting Surgeon, unmarried, for six months, renewable. Salary at rate of £70 per annum, with residence, board, and washing.

SUSSEX COUNTY HOSPITAL, Brighton.—Second House Surgeon, unmarried. Salary £60 per annum, with board, residence and washing.

UNIVERSITY OF OXFORD.—Philip Walker Studentship in Pathology. Annual value £200, tenable for three years.

VICTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea, S.W.—House Surgeon for six months. Honorarium of £25, with board and lodging.

WADSLEY, NEAR SHEFFIELD, WEST RIDING ASYLUM.—Fifth Assistant Medical Officer. Salary £140, rising to £160, with board, &c.

WESTERN GENERAL DISPENSARY, Marylebone-road.—Second House Surgeon, unmarried. Salary £50 per annum, with board, residence, and laundry.

Births, Marriages, and Deaths.

BIRTHS.

DENT.—On May 19th, at Bayshill-terrace, Cheltenham, the wife of Dr. Ernest A. Dent, of a son.

RANSOME.—On May 19th, at Bungay, Suffolk, the wife of Gilbert Ransome, M.R.C.S., L.R.C.P., of a daughter.

SPOONER.—On May 22nd, at Coupar House, Blandford, Dorset, the wife of William Casswell Spooner, M.B., Ch.B., &c., of a son.

TURNER.—On May 20th, at Oak House, New North-road, Huddersfield, the wife of F. Douglas Turner, M.B., of a son.

MARRIAGE.

BLACKALL—ELDRID.—On May 24th, at New-road Baptist Church, Oxford, by Rev. J. Dann, assisted by Rev. E. Blackall (uncle of the bridegroom), William E. Blackall, M.A., M.B. Oxon., to Ethel Gray, eldest daughter of Ernest Eldrid, both of Oxford.

DEATHS.

EARLE.—On Wednesday, April 20th 1904, at Holyrood, Black River, Jamaica, B.W.I., Lydia Isabel, wife of Edw. R. C. Earle, M.B. Lond., M.R.C.S. Eng., L.R.C.P. Lond., Government Medical Officer, and second daughter of Charles Earle Isaacs, Esq., J.P., Malvern, Jamaica.

GREER.—On May 21st, at Warkworth-street, Cambridge, Thomas Greer, M.A., M.D., aged 57 years.

MOORE.—On May 18th, at Warneford House, Moreton-in-Marsh, John New Moore, J.P., M.R.C.S., aged 63 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE "OPHTHALMIC OPTICIAN."

WE have received a little leaflet sent out by that enterprising advertiser Chas. F. Forshaw, M.S.A., or Forshaw and Co., or Dr. Forshaw, for he gives himself all three titles. From it we learn that "Dr. Forshaw has absolutely nothing antagonistic to say against the qualifications of Country Opticians generally but he desires to point out ..... that ours is an extensive and up-to-date Optical practice and we mean to keep it so." Forshaw is an amusing quack and has managed to get a testimonial from four Bradford medical men. Three of these—namely, Mr. A. Ramage, Mr. W. J. Mullany, and Mr. J. Bradley—we have been able to find in the Medical Directory and in the Register, but the fourth, Dr. C. McDowell, is neither to be found in the Directory nor the Register. Forshaw was dispenser at the Bradford Eye and Ear Hospital for some 16 months and the four medical men imply that this appointment gave "Dr. Charles Forshaw great experience in diseases of the eyes," while another testimonial from the Hon. F. H. Pollexfen, who states that he is a notary public and a master extraordinary in the High Courts of Chancery, besides being a member of the Spectacle Makers' Company, mentions that Forshaw's "experience as dispenser at the Bradford Eye Hospital is unique in the annals of optics." We cannot find Mr. Pollexfen's name in the Law List, but then he may be a colonial notary. His Grace the Archbishop of Armagh also gives a testimonial, but whether this confiding cleric is the prelate of the Church of Ireland or the Roman Catholic Archbishop there is nothing to show. Finally, Forshaw states with pride that he is ophthalmic optician to his Lordship the Marquis de Leuville. Forshaw has learned wisdom in one point. He does not put drops into the eye. But why he should be allowed to call himself doctor and why any medical man should give him a testimonial we cannot understand.

A CHINESE PHYSICIAN.

THE contrast between precept and practice in the Far East is sometimes puzzling to the Western mind. We have heard much of late concerning the barbarity of Chinese medicine, but the following account by an old Buddhist of an ideal medical man—most probably a Chinaman—should give pause to all such as believe the Chinese physicians to be little better than savage medicine-men. Our quotation is from Colonel Yule's notes on Marco Polo's "Voyages":—"In my own town," says the Buddhist writer cited by Colonel Yule, "there lived a physician by name Chang-yang-ming. He was a man who never took payment for his treatment from anyone who was poor; nay, he would often make presents to such persons of money or corn to lighten their lot. If a rich man would have his advice, and paid him a fee, he never looked to see whether it was much or little. If a patient lay so dangerously ill that Yang-ming despaired of his recovery, he would still give him good medicine to comfort his heart, but never took payment for it. I knew this man for many a year, and I never heard the word *money* pass his lips: One day a fire broke out in the town and laid the whole of the houses in ashes, only the house of the physician was spared." Colonel Yule comments thus on this passage: "Of such as this physician the apostle said: 'Of a truth I perceive that God is no respecter of persons, but in every nation he that feareth Him and worketh righteousness, is accepted with Him.'"

ENTERPRISE.

To the Editors of THE LANCET.

SIRS,—As the writer of the letter in THE LANCET of May 7th headed "Enterprise" my inquiry was directed to a point of professional etiquette only. I had no desire to question the qualifications and professional status of the specialist referred to, and if any words of mine have caused annoyance or injury to this gentleman I regret them and apologise. I am, Sirs, yours faithfully,

May 21st, 1904. H. I. L.

THE "METBAIN" COVER.

WE have received from the "Metbain" Cover Company of Accrington a specimen of a contrivance invented by them which they are putting on the market and which would enable each user of a public water-closet to place a fresh sheet of tissue paper on the seat as a seat cover. A number of sheets of tissue paper cut in crescented form with the horns of the crescent folded the one over the other are inclosed in a U-shaped metal cover, to one end of which the papers are fastened in the centre by a flap, thus securing them firmly in the centre to the cover. This metal cover with its contents is to be suspended by a metal bracket or handle, to be screwed to the under and front side of the wooden seat of a pedestal closet in such a way that the case in no way projects beyond the front edge of the closet seat. At the back of the cover there is a spring clip which engages the bracket and from which it may be detached with a slight effort and the cover removed if necessary. When the seat is

required for use one of the papers is eased out of the case and the horns of the crescent unfolded and placed on the seat. The paper is kept from being dislodged by being gripped in the centre by the metal cover, as explained above. After use the paper is torn off. The contrivance seems to us likely to be useful and may supplant the daily newspaper which is used by some people for the purpose. The only objections to it that we can see are that tissue paper soon becomes wet and that for wooden seats of pedestal closets which are raised and thrown back it might be rather inconvenient to have the metal cover fixed to the seat.

ANKYLOSTOMIASIS IN CENTRAL AMERICA.

Dr. Joseph A. Capps of the Rush Medical College, Chicago, has published what he believes to be the first recorded case of ankylostomiasis occurring in the neighbourhood of the Panama Canal. The disease is well known to be far from uncommon in the West Indies and in the southern States of the American Union. In Great Britain the usually accepted name of the parasite is ankylostomum but in America uncinaria—i.e., hook-worm—is more in favour. Following the latter nomenclature Dr. Capps says that the two species of hook-worm which infect man are uncinaria duodenalis, or the old-world hook-worm discovered by Dubini of Milan in 1838, and uncinaria Americana, recently identified by Stiles as a new world species and described by him in *American Medicine* of May 10th, 1902. Dr. Capps's patient was a man, 52 years of age, and a native of the United States. He enjoyed excellent health until 1879, when he went to Panama to work as a carpenter. In 1900 he was first taken ill with sudden gastro-enteric symptoms. At that time he was employed on the Chagres river (on the Isthmus), where he handled logs that were often covered with mud and he frequently took food without previously washing his hands. From January, 1901, to April, 1902, he was in a hospital in New Orleans where his illness was considered to be pernicious anæmia. On Sept. 9th, 1902, he was admitted into the Cook County Hospital where Dr. Capps had opportunities of observing him and the diagnosis of uncinariasis which was suspected from the existence of eosinophilia in the blood was confirmed by the discovery of ova in the fæces. At the necropsy about 150 specimens of uncinaria duodenalis were found in the small intestine.

HOLMAN TESTIMONIAL FUND.

THE following additional subscriptions to the above fund have been received:—

	£	s.	d.
Dr. F. Taylor	5	5	0
Mr. J. W. Lowder Cooper (O.E.)	0	10	6
Dr. A. B. McCarthy (O.E.)	0	10	6
Mr. Harold Lawton (O.E.)	1	1	0
Mr. H. Martin Francis (O.E.)	0	10	6
Mr. Percival E. Francis (O.E.)	0	10	6
Mr. G. Stawell (O.E.) ...	1	1	0
Dr. C. M. Chadwick (O.E.)	1	1	0
Mr. G. H. Makins, C.B.	2	2	0
Mr. Stamford Felce ...	1	1	0
Balance of Council's testimonial to Dr. Holman (1903), per Mr. Stamford Felce	6	9	0
Mr. A. Kelsey	2	2	0
Dr. A. P. Hillier	1	1	0

Further subscriptions will be received by Dr. John H. Galton, Chunam, Sylvan-road, Norwood, S.E., or by Mr. W. A. Berridge, Oakfield, Redhill, Surrey, and a further list will be published in a month. The amount at present subscribed is £353 3s. 6d.

INCOME-TAX ASSESSMENT.

To the Editors of THE LANCET.

SIRS,—A and B are in partnership but are assessed separately for income-tax purposes. They take into the business a third partner, C, with the understanding that C shall leave them at the end of the first year if the arrangement does not prove satisfactory to all parties and that any moneys which C may have drawn shall be made up to a certain sum by A and B in return for his services during the year of trial. C retires at the end of the year. Are A and B entitled to deduct the sum paid to C during the year he assisted them in estimating the profits derived from the business for income-tax purposes?

I am, Sirs, yours faithfully,

Y. Z.

**** C being a partner, though only for the year, should be separately assessed, as A and B are. The sum paid to C may not be deducted from the business account in estimating the profits, as C was a partner.—ED. L.

AN IMPROVED TEA AND COFFEE INFUSER.

THE preparation of tea in large quantities for use in hospitals, asylums, schools, and other institutions is often a matter of considerable difficulty. The practice of infusing the tea in a large boiler and then adding milk and sugar saves time but the liquid thus produced is not at all agreeable to the palate and is far from being conducive to health. On the other hand, the use of a number of small pots means increased expense, loss of time, and a certain amount of waste. Dr. W. Reid, the medical superintendent of the Royal Asylum, Aberdeen, has sent us a description of an infuser for tea and coffee which he has had made for the institution with which he is connected and the apparatus would appear to answer admirably the purpose for which it is intended to serve. It has already been favourably commented upon by the Commissioner in Lunacy. This infuser consists of an earthenware vessel contracted at the top and having a dome-shaped lid. At the bottom of the vessel there is a tap for drawing off the contents. Provision is made within the lid for suspending a muslin bag containing the tea leaves or coffee. This bag is removed when the tea or coffee is sufficiently infused. Outside the earthenware vessel is a metal case of the usual urn-shape and between the vessel and its outer case a layer of cork dust is put to act as a non-conductor of heat. The infusion can thus be kept hot for some time. If it is required to keep the tea or coffee hot for a longer time a spirit lamp can be placed under the urn. Messrs. Marshall and Philip of 125, Union-street, Aberdeen, are the makers of this urn which has been named the "Balmoral." The price of an apparatus holding about one and a half gallons is 30s.

AN UNFORTUNATE TESTIMONIAL.

WE have received a copy of the *Birmingham Express* in which Messrs. H. Andiamio and Co., a firm of tobacconists carrying on business near Congleton in Cheshire, advertise their "Marsûma" products and, moreover, publish a most eulogistic testimonial from a medical man in Herefordshire (name and address, of course, given in full). This gentleman says: "I advise mankind to smoke one brand only—that brand, 'Marsûma.'" We think he would be well advised to insist on the withdrawal of this announcement.

A COOLING CUSHION.

Messrs. L. Paechtner and Co., of 40, Queen-street, Cheapside, London, E.C., desire us to say that they are now the sole agents for Great Britain and the Colonies for the "Cooling Cushion" referred to in THE LANCET of April 16th last.

Schoolmaster.—Provided that the "covered way" has only a roof and no sides and that the sick house is *not less* than 30 feet away from the main buildings we think that in view of the conveniences obtained with regard to ease of transport and facilities for water- and gas-supply the connected sick house would be quite as hygienic as the totally separate one. Our correspondent may use the answers in the way in which he suggests. He will find a supply of useful information in two pamphlets published by the Medical Officers of Schools Association: (1) "The Arrangement and Construction of School Sanatoria," by Charles E. Paget (London: J. and A. Churchill); (2) "The Construction and Maintenance of School Infirmaries and Sanatoria," by the Council of the Medical Officers of Schools Association (London: J. and A. Churchill).

Justitia.—Upon the law of the matter our correspondent must consult a solicitor. His position is regulated by the conditions upon which he sold his practice. From the ethical point of view we cannot advise his return to the place.

Ferratus.—It seems that medical men, wanting certain facilities in electrical treatment, have employed the institute in question. Usually the patient has gone there on his or her own initiative.

Consistent does not inclose his name or address. He will find the subject to which he refers fully dealt with in the columns of THE LANCET of April 9th.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (30th).—London (2 P.M.), St. Bartholomew's (1.30 P.M., St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (31st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.).

WEDNESDAY (1st).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

THURSDAY (2nd).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.20 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (3rd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.).

SATURDAY (4th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (30th).—ODONTOLOGICAL SOCIETY OF GREAT BRITAIN (20, Hanover-square, W.).—7 P.M. Council. 8 P.M. Casual Communication:—Mr. W. Rushton: Total Absence of Dentition in a Boy aged 16 years. Paper:—Mr. L. Matheson: Some Debateable Methods in Everyday Practice.

TUESDAY (31st).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Paper:—Dr. W. P. Herringham and Dr. W. A. Wills: On the Elasticity of the Aorta, being a Contribution to the Study of Arterial Sclerosis.

WEDNESDAY (1st).—OBSTETRICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8 P.M. Specimens will be shown by Dr. Lockyer, Mr. Bland-Sutton, and Dr. H. R. Spencer. Short Communication:—Dr. J. M. M. Kerr: Certain Details regarding the Operation of Cæsarean Section in Cases of Contracted Pelvis based on a Series of 26 Cases. Papers:—Dr. T. W. Eden: A Case of Primary Hydatid Disease (Echinococcus) of the Fallopian Tube. Dr. C. J. Cullingworth and Mr. H. H. Clutton: Notes of a Case of Hydatids of Both Ovaries, Right Broad Ligament, Liver, Omentum, Mesentery, and Other Parts.

THURSDAY (2nd).—RÖNTGEN SOCIETY (20, Hanover-square, W.).—8.30 P.M. Paper: Dr. C. A. Wright: Experiments to Determine the Effects of Form and Winding upon Resonance Phenomena.

FRIDAY (3rd).—WEST LONDON MEDICO-CHIRURGICAL SOCIETY (West London Hospital, Hammersmith, W.).—8.30 P.M. Papers:—Mr. J. J. Clarke: Objects and Limits of the Surgical Treatment of Paralytic Deformities.—Dr. C. H. Fennell.

LARYNGOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—5 P.M. Cases and Specimens will be shown by Dr. StClair Thomson, Mr. Waggett, Dr. Kelson, Mr. C. Baber, Dr. S. Spicer, Dr. A. B. Kelly, and others.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (30th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. E. Dore: Clinique. (Skin.) 5.15 P.M. Mr. W. G. Spencer: Diseases of the Lymphatic System.

POST GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. A. Baldwin: Practical Surgery.

TUESDAY (31st).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. W. Ewart: Clinique. (Medical.) 5.15 P.M. Dr. R. Jones: The Treatment of Inebriety in Relation to Insanity.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Russell: Dyspepsia.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.). 3.30 P.M. Dr. Tooth: Neuritis.

WEDNESDAY (1st).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. P. J. Frayer: Clinique. (Surgical.) 5.15 P.M. Dr. C. O. Hawthorne: Pulse Tracings and their Clinical Significance.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Beddard: Practical Medicine.

UNIVERSITY COLLEGE (University of London) (Physiological Theatre).—5 P.M. Dr. W. P. May: Advanced Lectures on the Tracts of the Brain—Lecture V.: Sensory Paths.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. A. Latham: Pleurisy, its Causation and Treatment.

ST. PETER'S HOSPITAL (Henrietta-street, Covent-garden).—4 P.M. Mr. S. Edwards: Cases in the Wards.

THURSDAY 2nd.—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Hutchinson: Clinique. (Surgical.) 5.15 P.M. Dr. C. O. Hawthorne: Pulse Tracings and their Clinical Significance.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. P. Dunn: Drugs which Act on the Pupil, their Effects and Uses.

CHARING CROSS HOSPITAL.—4 P.M. Dr. Abercrombie: Demonstration of Medical Cases. (Post-Graduate Course.)

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (7, Fitzroy-square, W.).—5 P.M. Dr. G. Johnston: Nervous Affections of the Respiratory System. (Post Graduate Course.)

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Mr. Collier: Mastoid Disease in Children.

FRIDAY 3rd.—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. L. Paton: Clinique. (Eye.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. R. J. Reece: Measles.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M. Dr. Tooth: Neuritis.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 26th, 1904.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall.	Solar Radia. in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
May 20	30·21	E.	...	117	64	47	51	55	Fine
,, 21	29·88	S.E.	0·29	64	52	48	48	49	Raining
,, 22	30·07	S.	0·04	73	56	48	49	50	Overcast
,, 23	29·96	S.W	...	115	67	50	52	54	Overcast
,, 24	29·93	S.W.	0·08	79	60	52	53	55	Raining
,, 25	29·90	S.E.	0·08	89	69	54	57	59	Cloudy
,, 26	29·82	S.E.	...	88	70	54	59	62	Cloudy

During the week marked copies of the following newspapers have been received:—*Buenos Aires Herald, North Mail, Staffordshire Sentinel, Reading Mercury, Aberdeen Free Press (Weekly), Daily News, Daily Chronicle, Hull and Lincolnshire Times, Westminster Gazette, South Bucks Free Press, Hertfordshire Mercury, Standard, South Wales Daily News, Surrey Advertiser, Coventry Herald, Birmingham Daily Mail, Mining Journal, Local Government Chronicle, Liverpool Courier,* &c.

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